HELSINKI SCHOOL OF ECONOMICS (HSE)
Department of Business Technology

ADOPTION OF ELECTRONIC CHANNELS IN RETAIL BANKING AND AIRLINE INDUSTRIES

Information Systems Science
Master´s thesis
Tommi Kuukka, 70205
Spring 2008

Approved by the Head of the Department of Business Technology 24 / 6 2008
, and

awarded the grade good, Tup.

Tomi Dahlberg Pirkko Lahdelma

Helsinki School of Economics
Information System Science
Master's Thesis
Tommi Kuukka

ABSTRACT

May 30, 2008

Adoption of Electronic Channels in Retail Banking and Airline Industries

Research objectives

The objective of this study was to examine the retail banking and airline industries in Finland in order to identify possible similarities and differences in their approach to electronic channels.

Both industries are similar in their need to control and leverage customer information and value chain. In both industries there are also significant changes in the operating environment through deregulation, increased competition and increasing customer expectations brought by developments in technology and e-commerce in general.

Research methodology

This research was conducted as an explorative study, using a literature review and publicly available sources of empirical data, like business analyses and publications, press releases, annual and interim reports as well as statistics published by industry groups and public institutions.

Industry phenomenons were placed into the context of an integrative adoption framework and finally discussed in comparison to each other.

Results and key findings

The two industries examined were found to be remarkably similar in both drivers impacting them as well as responses.

In both cases product differentiation is difficult to achieve and one of the key areas of competition must take place in distribution. But electronic commerce also tends to commoditize their standard products, rendering the vulnerable to price erosion by price sensitive customers. As a result, industry participants seek to create value added and complexity by packaging.

Airlines have been able to move online more fully than retail banks, which still retain their branch networks as vital differentiators in distribution. And even in risk tolerant culture like in Finland, the trust generated by physical presence cannot be overlooked.

Key words Retail banking, airline industry, diffusion of innovations, electronic channels

Helsingin Kauppakorkeakoulu
Tietojärjestelmätiede
Pro Gradu tutkielma
Tommi Kuukka

TIIVISTELMÄ

30.5. 2008

Adoption of Electronic Channels in Retail Banking and Airline Industries

Tutkimuksen tavoitteet

Tutkimuksen tavoitteena oli tarkastella Suomaisia vähittäispankkeja sekä lentoyhtiöitä ja tunnistaa näiden toimialojen välisiä samankaltaisuuksia ja erilaisuuksia suhteessa niiden sähköisten kanavien käyttöön.

Molemmat toimialat ovat yhteneviä tarpeessaan hallita sekä asiakastietoaan että arvoketjuaan. Lisäksi molemmilla toimialoilla ja niiden ympärillä on tapahtunut – ja tapahtuu edelleen – merkittäviä muutoksia sekä sääntelyn purkautumisen että kilpailun kiristymisen merkeissä. Myös teknologiakehityksen myötä kohoavat asiakasodotukset lisäävät haasteita.

Tutkimuksen toteutustapa, menetelmät ja aineistot

Tutkimusmenetelmä oli eksploratiivinen, tapahtuen kirjallisuuskatsauksen ja sittemmin julkisten lähteiden, kuten toimiala-analyysien ja julkaisujen sekä lehdistötiedotteiden, vuosi- ja osavuosikertomusten että teollisten ja julkisten toimijoiden julkaisimien tilastotietojen kautta.

Havaitut toimialojen ilmiöt asetettiin integroituun omaksumisviitekehykseen ja lopuksi niitä verrattiin toisiinsa.

Tutkimuksen tulokset

Tutkittujen toimialojen todettiin olevan hämmästyttävän samankaltaisia sekä haasteiden että niitä vastaan tarjottujen keinojen osalta.

Molemmissa tapauksessa varsinaisen tarjonnan differointi on vaikeaa ja yksi kilpailun olennaisimmista osa-alueista on jakelukanavissa. Mutta sähköinen kauppa aiheuttaa tarjonnan muuttumista helposti vertailtavaksi hyödykkeeksi, mikä tekee siitä alttiin hintaherkkien asiakkaiden aiheuttamalle hintaeroosioille. Tämän seurauksena toimijoiden täytyy luoda lisäarvoa sekä tarjonnan monimutkaisuutta luomalla suurempia kokonaisuuksia ja lisäpalveluja.

Lentoyhtiöt ovat sinänsä onnistuneet siirtymisessään sähköisiin kanaviin vähittäispankkeja paremmin, sillä pankit pitävät silti kiinni konttoriverkostoistaan osana kriittistä jakelukanavakilpailua. Ja toisaalta Suomenkaan kaltaisessa riskinsietokyvyltään korkeassa kultuurrissa ei pidä aliarvioida fyysisen läsnäolon luomaa turvallisuuden ja luotettavuuden vaikutelmaa.

Avainsanat vähittäispankkitoiminta, lentoyhtiöt, innovaatioiden diffuusio, sähköiset kanavat

TABLE OF CONTENTS

1 INTRODUCTION

Both airline travel and financial services, especially retail banking, have been undergoing substantial changes in the recent years. In both cases, the industry has been pushed into an unknown territory by new information and communication technologies, increased competition and new entrants as well as deregulation and market integration (especially in Europe).

Another common feature between the industries in question is the change in their distribution channels and the relationships thereof. Channel portfolios have expanded from a bricks-and-mortar –based distribution into a more virtual setup, in which a customer is served via phone, mobile access, automated service points and the Internet. At the same time the role of physical outlets has changed and they are subject to cost-cutting initiatives.

While the underlying products in the two industries – bank accounts or holiday flights – are highly different, both industries deliver information in their distribution channels. In both cases the information content is very rich and complex, requiring visual representation via some media – the internet being highly suitable in both cases.

Both industries are also similar in their high dependence on information technology and their pioneering use of it – both industries have been using computing and IT in their key back-office functions at a very early stage. This pioneering approach has also reflected upon electronic customer service, as back office systems have been opened for direct customer interface.

1.1 Research objectives and delimitations

The primary objective of this study and the central research question is to examine which *factors underlie the channel mix of the industries under review*. In other words, the goal is to identify drivers of channel choices from relevant literature and empirical data and then place these drivers into a holistic framework.

Finally the similarities (and differences) between the two industries are identified using the framework.

For the purposes of this research, the channel mix in both industries is examined as single adoption objects. This is obviously a simplification as the distribution channels represented in a channel mix are in different stages of diffusion and have unique innovation attributes. The author recognizes this as weakness but also as a necessary delimitation.

It would also be highly interesting to examine the actual channel management of the industries, meaning the methods used to segment customers and direct to optimal channels. However, in order to streamline this work, the question is left for future research.

This study emphasizes the Finnish perspective and uses Finnish companies as empirical cases. However, the research field is quite international and the relevant theories applicable globally. Additionally this study is delimited to consumer oriented services (i.e. business-to-consumer) due to the fact that business services and their channels have significant differences in both banking and airline industries. Business-to-business offerings should be dealt in separate research.

In a nutshell, the research questions can be summarized as:

- Which factors drive the channel mix choices in the two industries?
- Is it possible to identify cross-industry similarities/differences in these drivers?

1.2 Methodology

The method of this study is explorative using an survey of relevant literature and sources of empirical data, like business analyses and publications, press releases, annual and interim reports as well as statistics published by industry groups and public institutions.

Steve Elliot's (2002) integrative adoption model for B2C e-commerce is presented and modified to fit the scope of this study. Then the two industries in question are examined from a high-level view to identify trends and commonalities between the forces driving change.

1.3 Structure of the study

The first part of this study takes an overview of the two industries. Then the relevant theories and literature are reviewed, followed by the development and presentation of the research framework and placing theory references into its structure.

Then the two industries are given a top-level review using the framework and real world phenomenon is placed into the framework context.

Finally the results are viewed and the industries compared.

2 RETAIL BANKING

The financial services industry is comprised of a wide array of institutions. The functions performed by them are quite similar all over the world, but the institutional arrangements required for the functions vary over time and across national boundaries. Even when institutions appear the same, their functions can vary greatly. (Crane & Bodie, 1996).

The industry born to cater the needs of the financial system includes institutions like mutual funds, credit card companies, building associations, mortgage banking companies, finance companies, various investment banks and brokers and commercial banks. The functional distinctions vary greatly and some of the institutions mentioned do not exist in some countries.

For the purposes of this research, the term retail banking is defined as *providing financial services, including lending and borrowing facilities, to individuals and small organizations*. Most commercial banks offer also wholesale banking, which means serving the needs of larger corporations and organizations, but as these services are highly tailored and customer-specific, they are excluded from this review.

2.1 Change drivers

The distribution of retail banking services is under heavy pressures. The deregulation, added competition and increased customer sophistication have resulted more products being offered via more channels than ever before (Holmsen et al., 1998).

Banks are preparing for increased competition brought by lowering of barriers to entry. One of the results of this process has been a wave of mergers cross-border, cross-sector and between competitors. Another response has been a rapid adoption of new technologies. (Mörttinen, 2002). In fact, Vesala (2000) argues that IT has become one of the most important competition factors. It should be noted that this transformation of banks affects not only the channels used, but also the content of the services offered (Crane & Bodie, 1996). The direct results of increased competition are lower margins and higher customer expectations (Devlin, 1995).

The future of retail banking distribution is in multi-access services. Multi-access means offering a customer a variety of service channels like ATMs, telephone, Internet, mobile and PDA devices as well as digital television. The traditional branch offices will continue to play a role, but only as a part of the complete channel portfolio (Devlin, 1995).

One important feature in retail banking is that the value chain is very short – the manufacturer (a bank) directly distributes its products to the end user. In some instances the bank acts also as an intermediary for financial products from third parties (like mutual funds, insurances and other special financial products), but mostly the products are the banks' own. There are normally no intermediaries between a retail bank and the customer. This also means that channel conflicts are banks' internal problems and subject to organizational resistance.

Crane & Bodie (1996) suggest that the retail banking value chain could support a service intermediary, i.e. a company owning and operating branches, which would offer the services and products of several banks. The approach is similar to common ATM networks, where several banks own and operate the machines jointly. This is already happening in the United Kingdom, where the Post Office has began to offer bank-teller services for multiple banks (Crane & Bodie, 1996).

One significant attribute of retail bank products' is that they are difficult to differentiate by content or quality (Devlin, 1995 and Vesala, 2000, p. 12). If a new product enters the market, its lead is measured in weeks as competitors quickly introduce similar products. As differences between financial products decline, they will be treated increasingly as commodities and come to compete more on price. Firms that specialize in product development can be successful, but over time they will command lower profit margins. (Deloitte Research, 2002)

But while products can be copied or licensed, customer service takes years to develop and sustain. Differentiation is increasingly sought via development of distribution channels. Another response is bundling of services and products to improve efficiency and overall profitability.

2.2 Distribution channels

Branch networks have long been the primary delivery channel for retail banking as they has been the most convenient way of processing the large number of transactions resulting from cash- and cheque-based society (Devlin, 1995).

But increasing pressures of competition and product and customer sophistication have forced banks to seek areas of improvement. Organizations have increasingly seen distribution as an option for differentiation, given the difficulty of effective differentiation of the products themselves (Devlin, 1995).

Distribution systems in fields like retail banking persist and change slowly. They are usually rigid and stable because of persistent inertia (Anderson et al., 1997, ref. Mols, 2001). Firms wanting to convert from one type of distribution channel to another often face resistance, conflicts and confused customers. (Mols, 2001)

Financial services are highly suitable for digitalization as they are very information intensive. The underlying asset – money – is mostly handled in abstract form and has been so for several years. The share of cash out of the total amount of money varies by country and culture, but the general trend in developed economies has been towards less physical tender. A vast proportion of money held by individuals and practically all money held by firms is in electronic form. Mutual fund shares, insurances and also common stocks are today mostly intangible securities.

Banks' response has been the development of multi-access services. The development begun with the introduction of ATMs and telephone banking. More recent access channels are online PC and online banking, both web-based and mobile. Despite expectations, bi-directional digital television has not emerged as a channel choice in any industry.

This development towards multiple simultaneous access channels has also been facilitated by the increased importance of IT in everyday banking. Vesala (2000, p. 11) describes the affects of IT as being twofold: firstly, an *internal wave* of development that begun in the 1960s and 1970s has lowered banks' costs by substituting computers for paper-based and labor-intensive methods of accounting for customer deposits, withdrawals and other transactions and for many internal operations. Secondly, a more recent *external wave* of IT developments presents new

possibilities for customers to access banking services without direct face-to-face contact with bank personnel. Liao et al. (1999) point out that the division between front and back office functions has become less relevant as integrated systems increasingly blur the line.

Banks are attempting to segment markets in terms of preferred delivery channels and to provide a product offering tailored to the needs of particular customer groups. The emergence of a more computer literate and technology capable generation is likely to make IT based delivery systems more popular. (Devlin, 1995)

But according to Deloitte Research (2002) the customers who are most resistant to using alternative channels are precisely those who need to be migrated to less costly channels. However, the same study found that 74 percent of bank executives surveyed said that their bank does not provide incentives to encourage customers to use alternative delivery channels. Interestingly, the Deloitte Research (2002) paper points out, that banks expected the customers to migrate to some new channel. Instead, customers tend to use the entire channel mix and select the channel that suits them best right then and there. This means that banks have to maintain and develop all parts of the mix.

Following is an introduction of the components of the multi-access channel mix of today.

2.2.1 Branch offices

Most retail banking customers in the world still rely on bricks-and-mortar banking. They are familiar and reliable and do not require any special skills or equipment from the customer. This is especially important for people living on the other side of the so-called digital divide, meaning the separation of the population into technology adopters and those that have difficulties with computers.

According to Devlin (1995), the branch network helps to overcome intangibility problems by providing physical evidence of the organization as well as being a convenient location for the customer to visit. Another argument made for the benefit of the branch networks is that they enable the bank to maintain a personal relationship with the customer and therefore improve customer loyalty. But Garrone

& Colombo (1999) state that the distance between customers and branches has already partly been relaxed by ATMs and telephone banking systems.

But the efficiency benefits of the electronic channels are unmistakable. Branch offices are only available during business hours and each transaction requires manual labor, even if the actual operation is conducted purely electronically. Each branch requires heavy investments and continued operating costs in equipment, rent, heating, electricity and personnel. In Finland the recession in early 1990's forced banks to trim down the branches, but in central Europe they are still going strong. As a result, Finnish banks have managed considerable improvements in labor output (Mörttinen, 2002, p. 41).

The role of branches must and will change as more and more simple transactions are carried out via electronic channels. In the future, branches will be contact centers and places for complex transactions. The important part of their future role is also the ability and need for cross selling. Since they are the only places of human service, the tellers can introduce the customers to more advanced bundles of services than is possible via electronic services. This of course places heavy requirements on the bank tellers (bank tellers of Nordea Bank in Finland went on strike in February 2002 when insurances were added to their product portfolio without extra pay). Branches will also have a strong role in maintaining visibility and brand of the bank. (Yakhlef, 2001 and Crane & Bodie, 2002)

2.2.2 Automated teller machines

Automated teller machines (ATMs) have been in use since 1969, when Chemical Bank in New York introduced the world's first ATM (Cash Technologies Inc, 1999). However, not much development has occurred since then and most ATMs in the world still offer only simple cash dispenser functions. More advanced versions offer simple account functions, enabling simple transfers and payments, but even they are surprisingly limited considering the age of the system.

Despite being a very useful channel for both banks and customers, the value of an ATM network is decreased by the fact that it requires a large number of expensive devices located at or near places where people move. These locations are limited in

number and have costs attached. This network externality problem can be partially offset via inter-bank cooperation of sharing ATMs between several banks.

Despite being relatively established technology, according to Bughin (2002) the adoption rate for ATM banking is no more than 65% in Europe. However, at the same time he finds a positive correlation between the adoption of ATMs and Internet banking.

2.2.3 Telephone banking

Telephone banking allows customers to conduct transactions through telephones. Phone banking services can be divided into two types: operator-attended and automated (Liao et al., 1999). Most banks offer at least simple telephone functions. While telephone banking is popular in some places (Liao et al. examine Hong Kong as an example), one significant challenge has always been the lack of visual information and the customer must rely on voice output only. Also a telephone offers a poor interface for automated banking, since input is possible only via the numerical keypad. Operator-attended telephone banking partly overcomes these problems but with much less efficiency.

2.2.4 Online banking

The development of electronic banking services began in early eighties with implementations using separate client software connecting to the bank or some intermediary service via a modem connection. According to Karjaluoto et al. (2002), Nordea introduced the first version of their Solo system in 1982.

The second generation of electronic banking introduced the Internet and first applications began to appear in mid-1990s. The Svenska Enskilda Banken (SEB) introduced their web service in 1995 (Yakhlef, 2001), and Nordea Bank (then Merita) launched the Internet version of Solo in 1996 (Karjaluoto et al. 2002). The number of online users has exploded since then, and Nordea Bank has reported quarterly double-digit conversion rates (Bughin, 2002).

Internet is in many ways a powerful tool for electronic banking. It is widely available in developed economies (penetration rates naturally vary), its use requires no proprietary technology – browsers are freely available and any Internet user is

familiar with them. Also the standardized nature of the Internet reduces costs for both the bank and the consumer; there is no need to establish a separate infrastructure for Internet banking, hardware is commercially available. Internet has become a tool as normal as the telephone; hence Internet banking can piggyback on infrastructure built for everyday use.

Most retail banking activities are highly suited for the Internet. Browsers are designed for the presentation of visually rich content and banking information can be presented in a highly graphic format. The stateless nature of the HTTP protocol means that information is passed on request only, hence lowering bandwidth demand (customer can request account information and then spend next minutes viewing without needing further bandwidth). Of course the same statelessness also means less feedback on customer activity and also reduced security, as it is possible to leave confidential information on-screen.

There are also regulatory concerns since electronic signatures are often not considered valid and many transactions require a physical signature. The development of electronic identification and signature methods seeks to address these issues, and this is also largely a legislative problem. In Finland banks have slowly been adding new services to their online systems, and currently most banking operations can be conducted electronically, while larger transactions like housing mortgages still require face-to-face contact.

2.2.5 Mobile banking

Mobile banking refers to a variant of online banking, where the functionality can be largely the same, but the user interface and layout has been adapted for smaller screen size and resolution as well as the poorer keypad and lack of mouse.

Financial services should be very well suited for mobile terminals since the amount of information transferred and displayed does not need to be extensive. Simple account balances and money transfers can be conducted even with a smaller screen.

Most banks have introduced mobile banking in some degree at least. Despite the massive mobile phone penetration, it has still not proved to be a killer application, perhaps due to poor user experience.

Improving screen resolutions and color abilities will help, but much work is needed in the field of usability to make mobile banking truly popular.

2.2.6 Digital television

The most recent addition to the multi-access mix is the digital television – at least in theory. The promise of bi-directional television, having a return channel for viewer feedback, was originally a significant driver towards digitalization. Unfortunately this development seems to have seriously stalled and despite several ongoing and completed (Finland digitalized on Sep 1, 2007) digitalization efforts, any discussion about return channels has disappeared. It therefore seems that the current dvb-standard family will not introduce bi-directional traffic.

But television has the advantage of being a familiar device and accessible even to most people not using the Internet. According to Eastin (2002), people are more likely to adopt information technologies functionally compatible to those previously adopted. Televisions displays continue to grow and improve in resolution, making them more and more desirable as communication platforms. And since television enjoys a near perfect penetration in most developed nations, it is likely that future convergence with IP-based networks (so-called IPTV) will also bring the long-awaited return channel. But it is also likely to be inseparable from the traditional online web-based experience.

3 AIRLINE INDUSTRY

This chapter introduces the airline industry in general, examines its distribution channel structures as well as reviews the Finnish market situation and specifics.

For the purpose of this study, airline industry players examined in this study are *airlines (known also as carriers) operating passenger aircraft for the purpose of selling seats for specified flights*. This study also discusses industry elements involved in the distribution of flight tickets. The entire industry encompasses also ancillary businesses in ground services, administration, maintenance etc, but these are excluded from this study.

Only few years ago the industry looked very different – major players as well as the distribution arrangements were considerably different from today. Most of the world's air traffic was handled by so-called *flag carriers*, national airlines operating flights to and from their country of origin. Entry to their markets was restricted by legislation and commonly they would operate in a monopolistic environment. Also typically these flag carriers were often at least partly owned by the government of their place of origin. Examples of flag carriers are British Airways, Air France, Iberia, Alitalia and Finnair. Most flag carriers are still in operation, but usually in drastically changed environments.

The large carriers in the US were never flag carriers in the traditional sense of the term, as they have always been competing with each other without any direct government involvement. However, even they have not been operating in a deregulated environment, but instead have had restrictions on the routes they have allowed to fly.

Identical routes between competing airlines tend to lead to undesirable price competition, so airlines attempt to differentiate their offering by having either a unique departure or destination airports compared to their competitors. This is called *spatial differentiation*, and according to Piga & Filippi (2002), it is a strategy used especially by low-cost airlines. This view is supported by Driver (1999), who notes that airlines prime competitive advantage is its route network. However, he also notes that airlines suffer considerable difficulties, in an essentially common environment, often with virtually identical aircraft and similar airports, in achieving

brand differentiation. Some carriers do seek to differentiate by quality, by offering luxury seating, better meals and special service. This strategy is pursued by for example Emirates, Singapore Airlines – and even more singlemindedly by niche airlines like Eos and Maxjet.

Considering the difficulties in product differentiation, situation in the airline industry is not very different from retail banking. Therefore distribution can and is used as a source of competitive advantage and differentiation. Piga & Filippi (2002) actually note that a distinguishing feature of the emergent low-cost airlines is the ability to use innovation distribution systems alongside with more traditional ones. However, established airlines are desperately bridging the gap with their own e-commerce and e-ticketing initiatives.

3.1 Product definition

While Driver (1999) notes that travel itself is an experience good, airline tickets are defined as *an information good* by Boyd & Bilegan (2003). This means that the ticket inventory can be managed from a centralized source using a reservation system without concern for physical location (ibid).

Normally airlines do not distribute seat inventory by allocating different amount of seats to different channels. Instead, airlines create different products (i.e. ticket classes), establish prices for those products for different distribution channels and then control their availability in the central reservation system. (Boyd & Bilegan, 2003)

These ticket classes are a form of versioning discussed by Shapiro & Varian (1998). For example, an M-class ticket from city A to B could cost 300€, require a minimum stay of three nights at the destination and have no eligibility of flight changes. But a class C ticket for the same trip might cost 600€, but have a business class seat with a better meal and have no restrictions on the return flight or change of flight schedule. Most classes have even smaller distinctions, like the right to change flights or how early the seat can be purchased. A single flight can have passengers from a dozen different ticket classes. (Boyd & Bilegan, 2003)

Each airline uses a central reservation system recording what seat inventory has been sold and what is still available for sale. These systems were initially developed to

record the sale of inventory at a fixed price. However, they were quickly developed to maximize margins with minimum capital outlay. Dynamic management of overbooking, demand forecasting taking willingness to pay into account and optimizing the mix of fare products are collectively known as *revenue* or *yield management.* This is vital for airline's ticketing and distribution planning. (Boyd & Bilegan, 2003)

Central reservation systems were pioneering e-commerce systems, built originally using mainframe technology. This technology has never been fully replaced, and the functionality of these systems is expensive to change and maintain. These systems also need to be extremely fault-tolerant and redundant, since down time means that the sale of inventory is effectively halted. As a result, the systems are largely unintelligent workhorses. Inventory control mechanisms normally receive their parameters from separate revenue management systems. (Boyd & Bilegan, 2003)

The most important task of airlines sales and revenue management is to control the availability and price of each product in each distribution channel. The number of seats assigned to each fare class is defined through demand forecasting and can also be changed during the sales process. Typically airlines sell cheaper tickets first and as the flight approaches, only more expensive classes are available. Also if demand exceeds forecasts, sale of cheaper fare classes can be closed in favor of more expensive tickets. This entire process is called leg/class –control. (Boyd & Bilegan, 2003)

However, the actual profit maximization process is even more complex. Airlines need to consider not only single flights but entire routes in their optimization schemes as some passengers wish to fly only from A to B and back, while others want to buy tickets for the entire route A-B-C-A. The control of inventory has to be dynamic to take into account demand fluctuations. (Boyd & Bilegan, 2003)

In its most basic form, revenue management focuses on establishing general product availability without accounting for the source of a purchase request. However, it is possible to differentiate product availability based on the information related to the purchase request and many carriers incorporate this information in some form. The simplest method is to account for the cost of sale through a particular distribution channel, charging more to cover the cost of more expensive means of distribution.

The low cost of selling thorough the Internet is a strong economic factor driving the growth of e-commerce. (Boyd & Bilegan, 2003)

3.2 Change drivers

3.2.1 Regulation and Deregulation

One of the largest changes in air travel industry has been the extensive deregulation and opening of markets around the world. The European Union (or actually the entire European Economic Area, with Norway, Iceland and Lichtenstein included) liberalized its air space for cross-border competition in April 1997, thereby removing the regulatory protection of European flag carriers. The single European air transport market permits any EU airline to fly a domestic route in any other EU country and allow it full access to all inter-EU and other international routers (Bouvard & Somosi, 1997).

Previously European flag carriers had been enjoying monopolistic positions - up to 60 percent market share - in their home markets. This resulted in over-capacity, inefficiency and poor distribution management. Faced with new competition, some of these airlines have became casualties - as demonstrated by the bankruptcies of the Belgian Sabena and Switzerland's Swissair.

But recently the European Union has been active in improving passenger protection in case of overbooking, delays and cancellations. The new EU regulation on compensation and assistance to passengers was adopted in 17 February 2005. According to the regulation, in the event of overbooking, significant delay or cancellation, the passenger must be compensated with the sum of 250€ to 600 € (depending on travel distance and time) plus reimbursement or alternative flight and meals, refreshments and hotel accommodation. While being a powerful improvement in consumer protection, this regulation will also be a significant burden on all airlines operating in Europe, especially for airlines operating short, well-competed routes as the minimum compensation of 250€ often exceeds the original ticket price.

In the United States commercial air traffic was heavily regulated prior to 1978. The Civil Aeronautics Board (CAB) controlled fares, schedules and routes. But the growth of air travel created increasing pressures to the system. Air cargo was

successfully deregulated in 1977 which led to the Airline Deregulation Act (ADA) of 1978. The ADA liberated the establishment of new routes, authorized international carriers to offer domestic service and removed all fare controls. CAB was dissolved and remaining regulatory authority was transferred to the Department of Transportation (DOT). The ADA did lead to lower fares and greater productivity, but as in Europe, the downside of deregulation has been a wave of reorganization with nine major and over hundred smaller airlines going bankrupt or liquidating between 1978 and 2001.

One of the most important remaining regulations was DOTs rules against Computer Reservation Systems (CRS) discrimination between airlines. However, these rules were allowed to expire in June 2004. This deregulation is further discussed in the following chapters.

3.2.2 Competition and new entrants

Deregulation did not only enable competition between existing players, it removed considerable barriers for entry for new airlines. Most remarkably it has enabled the development of low-cost airlines (LCAs) like Southwest Airlines and JetBlue in the US and Ryanair and EasyJet in Europe.

LCAs implement the basic strategy of cost advantage, i.e. low fares made possible by correct identification of airlines' cost drivers. This strategy seems to be highly successful and supports the view that the paramount factor in customer's choice of airline is price. (Piga & Filippi, 2002)

Southwest Airlines in the US is one of the benchmarks for the LCA business model, having been originally founded in 1971. Its business model – closely copied by most other LCAs – is to fly point-to-point direct routes, using secondary airports with lower service costs. Passengers switching flights are required to retrieve their luggage and carry them to the next gate themselves. Ryanair actually goes as far as to recommend that passengers should not book connecting flights from them! LCAs also typically operate similar route profiles, enabling them to concentrate on only few aircraft types. This leads to newer fleets (Southwest Airlines fleet average age is nine years) with lower fuel consumption and maintancence costs as well as reduced complexity in fleet management. Large flag carriers, like British Airways or Air

France/KLM, often operate a great variety of aircraft - BA currently operates twenty different airframes versus six operated by Southwest Airlines.

Established, more traditional carriers often have significant control over their airport facilities and other ancillary facilities – especially in Europe, where airports were commonly operated by flag carriers themselves. This may have been a strong barrier of entry. LCAs circumvent this by flying from and to smaller and less popular airports. There airports – often underutilized – can be very anxious to get the increased business and therefore can offer highly attractive terms to the LCAs using them. (Piga & Filippi, 2002)

The strategy of using low-cost airports suffered a blow recently as the EU Commission ruled on March 3, 2004 that Ryanair had in fact received public subsidies from the Walloon region for using the Charleroi airport in Belgium in the form of discounts in landing fees and ground services. The Commission found this to be uncompetitive state subsidy and ordered Ryanair to repay approximately 4 million euros to the Walloon government. Ryanair has appealed the decision to the European Court of First Instance and case number T-196/04 is currently pending resolution. If the commission position is confirmed by the court, several other regional airports might have to reconsider their discount policies.

Established carriers are responding to the threat of LCAs by creating their own low-cost brands to compete more effectively in the market segment, for example Delta Airlines' Song in the US, British Airway's Go (later acquired by EasyJet) and KLM's Buzz (acquired by Ryanair). Building secondary brands with separate fleets also represents a tactic of investment in capacity as a method to raise barriers of entry. The tactic is has been used in several other industries and there is evidence of it in the airline industry as well. As a result, the spatial differentiation strategy used by LCAs may suffer, as more and more airlines begin to share identical routes and are therefore forced to compete by price. However, this effect can be mitigated by increased demand, created by increase of available travel alternatives. This market expansion effect was observed after the entry of Southwest Airlines to the US market. (Piga & Filippi, 2002)

3.2.3 External shocks

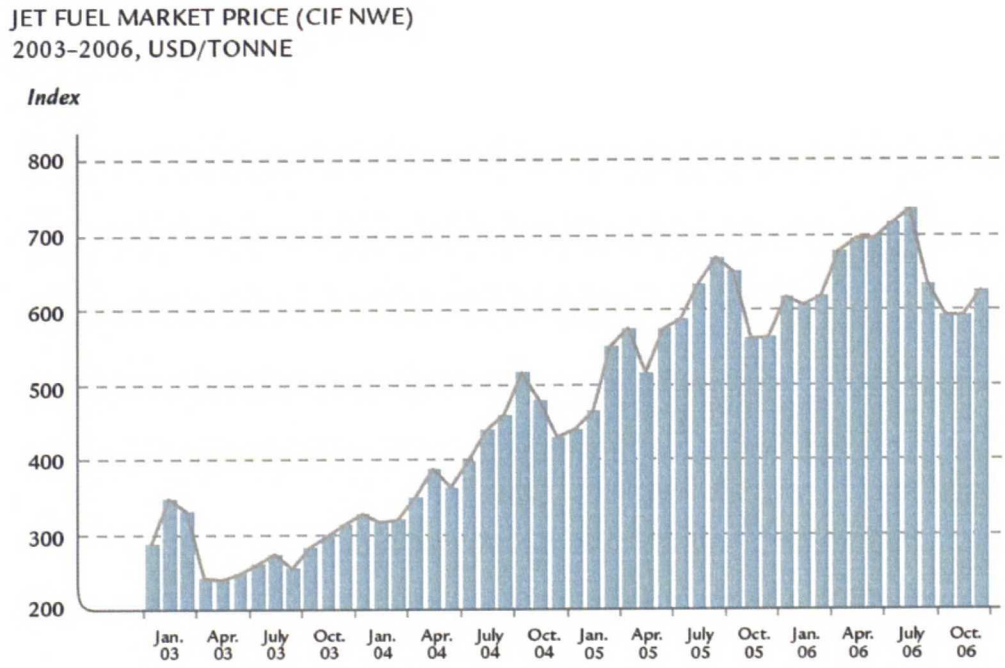
There have been several global events that have had a serious impact on air travel during the last few years.

First, the profit margins of world's airlines were strained by a global economic downturn, reducing both business and leisure travel. However, the situation was already beginning to show signs of improvement, when the terrorist attacks of Sep 11, 2002 happened. Not only did the events of that terrible day cause serious fears in the minds of passengers – some U.S. corporations actually stopped all business travel abroad - but also caused considerable delays on airports due to added security. Airlines were also forced to pay for new security measures and also heavily increased insurance costs. The effects of September 11 are still being felt. Additional terrorist attacks in Bali, Madrid and London have continued to erode public trust in the safety of many popular tourist locations. They have also resulted in ever increasing security measures at airports, slowing traffic and severely damaging passenger's travel experience. Also continued military actions in Afghanistan and Iraq contribute to the general sense of insecurity.

Another serious blow to global air travel came in a much smaller form. The outbreak of the SARS virus in China and its subsequent spreading to several other countries caused the halt of air traffic to and from affected areas and hurt consumer confidence even further. In addition, airports were once again forced to enact even heavier security measures, this time against biological hazards. The SARS problem had only just disappeared, when Asia was again shocked by the avian flu virus affecting Thailand and its neighbors. Images of passengers to and from Asia being sprayed with desinfectants certainly does not promote travel.

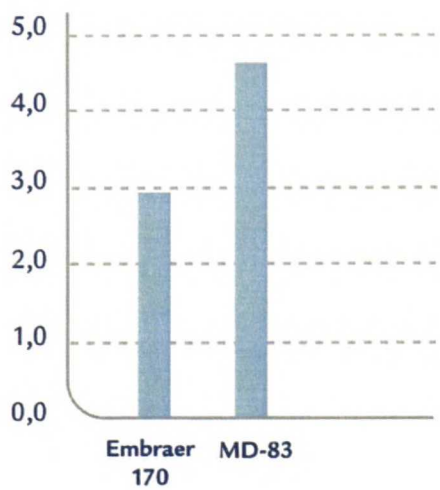
One of the most important cost drivers for airlines is the dramatic increase in the price of fuel, partially due to instability in the Middle East. According to Finnair Annual Reports in 2004, its fuel costs rose by 34,4 percent in the operating year 2004. In 2006, fuel costs amounted to 19,4 percent of Finnair's total sales. Delta Airlines' reported a 75,5 percent increase in fuel costs in the fourth quarter of 2004.

Figure 1: Development of jet fuel market prices in 2003-2006 (Finnair's Annual Report 2006)



Airlines are struggling to shift this cost to their prices, but this is difficult especially given the existing price competition between legacy carriers and LCAs. Several of the LCAs have the added advantage of having fairly new aircraft with greater fuel efficiency. Some airlines – Southwest Airlines being a leading example – have managed to limit the effects by successful hedging of oil prices, resulting in increased competitive pressures.

Fuel consumption (in KG) per passenger and 100km travel



The adjacent figure from Finnair's Annual Report 2006 shows the difference in fuel efficiency between a new Embraer 170 jet and an aging MD-83, when flying from Helsinki to Manchester, UK with 76 passengers.

The Embraer shows nearly 30% reduction in fuel consumption.

Fuel efficiency is not the only consideration for fleet renewal. Airlines are also under growing pressure to reduce air travel's environmental footprint by reducing carbohydrate emissions and – quite significantly - also noise. This can only be achieved by costly replacement of aircraft, although the cost is partially offset by the aforementioned increase in fuel economy.

3.2.4 Concentration

One result of all the abovementioned competitive pressures has been the concentration of key players. A sign of this are the mergers and acquisitions between airlines – recent examples being merger between Air France and KLM and the acquisition of Swiss (descendent of the bankrupt Swissair) by Lufthansa. Similar mergers are bound to follow, with also Finnair being seen as a potential acquisition target.

Another – and less radical – way to pool resources is through alliances and code-sharing. There are currently three major global airline alliances:

- Sky Team, with Air France-KLM as the leading partner,
- Oneworld, led by British Airways (with Finnair is a member) and
- Star Alliance led by Lufthansa (and represented by SAS in Finland).

The purpose of these alliances is to have members with complementing route networks to leverage network effects. Alliance members also share costs from their frequent flyer programs, leverage their combined negotiating power in supplier relations and reduce costs by seeking economies of scale in support processes like marketing and IT. The depth of integration varies.

Code-sharing is a lighter form of alliance, where participating airlines can sell seats on their partner's flights as their own, thereby combining at least parts of each others route networks for mutual gain. According to Driver (1999), code-sharing is a marketing device, a consumer oriented initiative.

3.3 Distribution channels

In Europe before deregulation up to 90 percent of tickets were distributed via external channels (travel agents, consolidators, tour operators). Distribution using

these channels cost typically 17 to 20 percent of ticket price, while direct distribution by airlines themselves (via telephone and ticket offices) cost only 10 to 15 percent of ticket value, if managed well. In all, ticket distribution has typically represented an airline's third-largest cost after personnel and fuel. (Bouvard & Somosi, 1997)

But regulated industry meant flag carriers in Europe enjoyed domestic market shares up to 60 percent and could therefore transfer costs to customers and use their market power to keep commissions to domestic distributors below IATA's recommended 9 percent of ticket value. This meant that channel management was not very important. (Bouvard & Somosi, 1997)

Information management is crucial. Inventory requests arrive at an airlines' CRS through many different channels, which provide diverse levels of information about the buyer. Many of the third-party channels are entirely opaque, giving no information about the customer and, therefore, providing no opportunity for customer differentiation. Global distribution systems are capable of providing various levels of customer information, ranging from zero to full coverage (and greater transaction cost due to increased need for bandwidth and processing). (Boyd & Bilegan, 2003)

Direct sales have no intermediaries involved in the transaction, allowing complete freedom to incorporate information about the customer to design tailored responses. This is achieved at the lowest cost using e-commerce channels. (Boyd & Bilegan, 2003)

Pötzl (2000) notes that some players in the distribution channel are extremely vulnerable to bypass and disintermediation. While airlines and passengers will always have a role, travel agents and GDS vendors are less essential. Although it could be argued that GDS operators have an important role in reducing customer search costs, by consolidating the offerings of several airlines, hotel chains and car rentals agencies.

One of the airlines' methods of reducing distribution costs is e-ticketing (also known as ticketless travel). But e-tickets also make disintermediation easier and more effective, as airlines can offer passengers direct access to their flight plans. E-tickets also mean that the airline has direct access to the passenger, regardless of the channel used to buy the ticket. In order to prevent agents from being threatened and keep

them from punishing airlines by favouring competition, airlines have actively been encouraging agents to use e-tickets. Agents have been enthusiastic to do so, due to decreased processing costs. But, as e-ticketing becomes more widespread, it can be used as a tool to bypass agents and enable direct selling.

Airlines are technologically quite capable of bypassing intermediary channels with e-commerce initiatives, as they have had the necessary back-office systems in place for decades. This situation is again similar to retail banking, where banks are also striving to open their back-office functions to the direct customer interface.

3.3.1 Global Distribution Systems (GDS)

Global Distribution Systems or GDSs are large computer systems aggregating airlines' scheduling and availability information in their databases and providing travel agents and other users access to that data.

They were born over 40 years ago when individual airlines' computer reservation systems (CRS) were extended to enable travel agents to make direct seat reservations. These CRS systems were the world's first e-commerce initiatives.

Soon the pioneering U.S .airlines also began selling their CRS services to other airlines that did not have the critical mass to install their own reservations system in travel agencies. This enabled non-system owning airlines to electronically distribute their services to travel agencies.

These reservation systems have evolved into global distribution systems (GDSs). Where CRSs helped individual airlines sell and manage their own seats, the GDS consolidates information from many airlines, allowing travel agents, businesses, and individuals to shop in a single electronic marketplace. This marketplace has expanded to include hotel, rental car and destination products and services.

However, the term CRS is commonly used as synonym to GDS, referring to these modern, multiparty systems. But confusingly, some literature uses the term CRS to describe an airlines internal computer system.

There are currently four major GDS entities:

- **Sabre** was born in 1960 when American Airlines and IBM built a system to enable travel agents to make seat reservations directly. Became separate

entity in 1996 and is publicly traded. Owns the travel portal and e-commerce site Travelocity.com

- **Amadeus** was founded in 1987 by Air France, Iberia, Lufthansa, and SAS (no longer a shareholder). Strong in European markets.
- **Galileo International** was founded in 1993 by 11 major North American and European airlines: Aer Lingus, Air Canada, Alitalia, Austrian Airlines, British Airways, KLM Royal Dutch Airlines, Olympic Airways, Swissair, TAP Air Portugal, United Airlines and US Airways. Was listed in New York and Chicago Stock Exchanges in 1997 and acquired by the Cendant Corporation in 2001.
- **Worldspan** was founded on February 7, 1990 by affiliates of Delta Air Lines, Northwest Airlines and Trans World Airlines. The company was sold in 2003 to Travel Transaction Processing Corp.

In addition, there are several smaller or regional GDSs, including SITA's Sahara, Infini (Japan), Axess (Japan), Tapas (Korea), Fantasia (South Pacific), and Abacus (Asia/Pacific) that serve interests or specific regions or countries.

But since only a handful of airlines had originally seized the opportunity to sell their systems to travel agencies and other airlines, competitive issues quickly arose as to whether it was viable for hundreds of airlines to pay to participate in systems that were operated by only a few dominant CRSs—all of which were fierce competitors, and which were owned by competing airlines. Subsequently air transport officials in major areas (US, EU, Australia) have created so-called CRS rules to prevent discriminatory pricing and allowing equal access to all parties.

But the U.S. removed its CRS rules in 31 July 2004 since airlines have sufficiently divested themselves from the GDS operators, which are now independent. The EU is also planning similar measures, but the problem is that the premiere European GDS, Amadeus, is still controlled by Lufthansa, Iberia and Air France-KLM. Therefore full deregulation could lead to Amadeus showing bias towards its controlling airlines.

However, most low cost airlines do not participate in GDS's due to the 5-10€ commission they must pay for every ticket sold via the GDS. Instead, LCAs choose to offer their flights on their own sites and some, like Southwest Airlines, have

actually created their own proprietary reservation systems for travel agent use. But this requires considerable market power and subsequently most travel agents do not sell most LCA tickets. In the United States, JetBlue participated in Sabre, but pulled out as their own sales increased.

3.3.2 Travel agents

Agency distribution was born in the 50s and 1960s to cater the leisure travel segment, which the airlines saw as incremental business, which was difficult to distribute to. But agencies expanded towards business travel as well, which led to airline resistance in 1980s and 1990s. The cheapest distribution channel to consumers had become an expensive channel serving the corporate market as well. (Pötzl, 2000)

The resistance began as reduction of marketing support to largest agents and increased loyalty building towards customers with tools like frequent flyer programs. Frequent flyer programs (FFPs) began in 1981 by American Airlines (Driver, 1999) and they enable airlines to identify their best customers and gather substantial amount of information about them. They also provide the airlines with a tool to reward customer loyalty directly, as frequent flyers receive reward flights, upgrades and other special benefits.

Pötzl (2000) notes that combined with e-ticketing and e-commerce, FFPs enable airlines to bypass agencies and capture key customers, thereby also reducing the risk of punishment by the agents – weakening them even further. Travel agents have actually used their power to punish airlines for channel conflicts. In 2000, tour agents in Hong Kong allied to boycott Cathay Pacific Airlines for selling extra low fare products on the Internet (Shon et al, 2003).

Driver (1999) points out that frequent flyer programs also increase barriers of entry by increasing customers' switching costs. This effect can be boosted via alliances and code-sharing, i.e. participating airlines form a cartel to defend against outside competition.

Agency commissions have declined for several years. The latest step in this development has been the elimination of commissions entirely – destroying travel agents' main revenue stream. Most airlines now simply offer transparent prices

through all their channels; any commissions or delivery fees are added to the final price. Since consumer air travel is very price sensitive (see Pötzl, 2000 and Piga & Filippi, 2002), this strategy must favour airlines' own channels heavily. In order to retain their revenues, travel agents have been forced to impose booking charges upon customers. Justifying these booking charges and any extra fees requires the travel agents to offer value adding services, like travel packages and travel management for corporate clients (Pötzl, 2000).

Travel agent's booking charges have also created an opportunity for airlines to charge their own booking charges directly from the passengers, thus compensating their costs. They can still maintain an advantage by keeping their booking charges below those charged by travel agents. In Finland, SAS offers their tickets from their website with a service charge of 10 €, while a travel agent like eBookers may charges 35-55 € for the same transaction.

Deregulation changes also the travel agents. Bouvard & Somosi (1997) note that they have to deal with falling ticket prices, increasing customer demands and increasing cost-awareness by airlines and clients. But they also note that deregulation means not only increased competition between airlines but also gave greater bargaining power for travel agents, who can shift market shares among competing airlines – previously not possible due to heavy regulation.

A bigger threat lies in airlines efforts to redefine travel agents role and, in some customer segments, to bypass them (Pötzl, 2000 and Bouvard & Somosi, 1997). As a response, agents are boosting their bargaining power by integrating to realize economies of scale nationally, while international chains are broadening their geographical coverage through acquisitions and joint ventures (ibid). One example of increasing coverage is the growth of eBookers plc., an international travel agent headquartered in the UK. The company expanded into the Finnish market in 1999 by acquiring Lloyd Tours, one of the largest travel agents in Finland.

New technology-based channels, like Internet, enable airlines to bypass agents and serve customers directly. Distributors are fighting this disintermediation by using technology to offer high-value travel management services. (Bouvard & Somosi, 1997)

3.3.3 Third-party distribution

One special form of third-party distribution are electronic exchanges – virtual marketplaces where buyers and sellers trade. Airlines however try to avoid exchanges where possible to minimize commoditization of their inventory. Exchanges offering dozens of options for travel from A to B encourage price competition and do not promote brand loyalty. Airlines work to distinguish their products through frequent flyer programs, service, brand building and versioning to command a premium price. Commoditization leaves price as the primary competitive factor, which makes traditional carriers vulnerable to LCA competition. Consumers decision-making is considerably impacted by the order in which ticket purchase alternatives are presented. (Boyd & Bilegan, 2003)

Exchanges have the potential for tremendous market power. If any exchange succeeds in building sufficient buyer mass, it can force sellers to accept its fees. This happened with the evolution of GDSs as they positioned themselves as sales intermediaries between airlines and travel agents. (Boyd & Bilegan, 2003)

Some of the largest web services belonging to this category are Orbitz, Travelocity (owned by Sabre) and Expedia in the U.S. and Opodo in the Europe. Interestingly, most low cost airlines like Southwest Airlines refuse to list their flights in these exchanges.

4 THEORY REVIEW

4.1 Marketing channel

The concept of marketing channel cannot be defined in single terms, as the definition depends on the perspective of the observer. Manufacturers can focus on different intermediaries required to move the product to customers, while consumers may view the channel as simply middlemen between them and the original producer. Academic literature can define a channel by its structural dimensions and efficiency. (Rosenbloom, 2004. p. 7)

A definition suggested by Rosenbloom (2004, p. 8) is that a *marketing channel is the external contactual organization that management operates to achieve its distribution objectives*. Therefore a channel is perceived to be outside the firm and its management a distinctly interorganizational issue. The term contactual refers to – and only to – parties directly involved in negotiary functions (buying, selling and transferring of title of goods). Other firms involved in the process, like transportation companies, financers, warehouses, insurance companies and the like are not included in this definition.

4.1.1 Channel participants

As was mentioned above, a marketing channel is a contactual organization. It's members are producers and manufacturers and intermediaries, divided into wholesale intermediaries and retail intermediaries. Other non-negotiatory firms facilitating the product flow – although potentially critical to success – are not members of a channel, but instead they, together with the actual partners, are called channel participants. (Rosenbloom, 2004. p. 32)

Producers and manufacturers are firms involved in extracting, growing or making products. All exist to offer products that satisfy the needs of customers. In order to achieve that, they must distribute the products to customers. However, many of them are not capable of doing it themselves efficiently and they attempt to shift some or all distribution tasks to intermediaries.

Intermediaries are businesses that assist producers and end-users in negotiatory functions and other distribution tasks. Rosenbloom (2004, p. 36-65) divides them into two levels:

- **Wholesale intermediaries** are businesses selling goods for resale or business use. Also included are firms operating as agents and brokers. There are three types of wholesalers:

  1) *Merchant wholesalers*, who handle product in relatively large quantities and resell them to retailers, other wholesalers or large businesses. They serve manufacturers as well as retailers and other customers.

  2) *Agents, brokers and commission merchants* do not take ownership of products they distribute, but act as independent middlemen on behalf of their clients.

  3) *Manufacturer's sales branches and offices* are owned and operated by manufacturers but are physically separated from manufacturing. They distribute manufacturers' own products at wholesale.

- **Retail intermediaries** sell merchandise for personal or household consumption. They are an enormously varied group, ranging from small kiosks to huge supermarket chains. Subsequently the tasks they perform also vary, large chains have their own warehouses whereas small businesses rely on wholesalers or producers for support.

4.1.2 Channel structure

Channel structure can be defined as *the group of channel members to which a set of distribution tasks has been allocated.* This definition by Rosenbloom (2004, p.20) implies that a channel management requires a decision on how to allocate or structure the distribution tasks.

Traditional model for the distribution of consumer goods has been a single channel model with different types of good requiring different types of channel (Black et al., 2002). Berman (1996) suggests that perishable goods require short channels while non-perishable goods can utilize longer channels. High value goods can be sold direct while low value goods are typically sold indirect. But consumers now face not

only a choice between direct and indirect channels but also a choice between different types of direct channel (Black et al., 2002).

Multi-channel strategy means that a firm has to chosen to reach its customers through more than one channel. The use of multiple channels has become commonplace in many industries, being more a rule than exception. Especially the emergence of e-commerce has led firms to develop multi-channel structures that include online channels.

Challenges and issues facing businesses moving into the multi-channel marketing environment tend to be perceived as channel-focused issues. The questions have been how to improve the channel and how to drive customers to the channel without offending other channel members.

But according to Schoenbachler & Gordon (2002), some researchers argue that key to successful multi-channel marketing is to focus on customer contact points rather than the channel. A channel focus assumes that the company owns the customer experience; in a multi-channel environment, the customer owns the experience.

Regardless of whether distribution is single-channel or multi-channeled, each channel has certain qualities. Rosenbloom (2004, p. 194) presents three key dimensions of channel structure:

1. Number of levels in the channel
2. Intensity at various levels
3. Types of intermediaries at each level

Number of levels indicates the number of participants in the channel. Two-level structure is a direct channel, levels being the manufacturer and the final user. Additional intermediaries can bring the number of levels to five or even higher resulting in an indirect channel.

Berman (1996) uses the term channel depth to describe the number of levels involved.

Intensity at various levels refers to the number of intermediaries at each level. *Intensive* intensity means as many outlets as possible at each level of the channel. *Selective* means that not all intermediaries are used, but those included in the channel

re carefully chosen. *Exclusive* intensity is very specialized distribution, where only one intermediary per market area is chosen.

Berman (1996) uses the term channel width to describe intensity.

Types of intermediaries indicates the mix of intermediaries at various levels of the channel. The types are discussed above in chapter 4.1.1.

4.1.3 Channels for services

Since both industries examined in this study are service industries, it is important to view the specifics of service channels. The sales and distribution of services has fundamental differences to product distribution.

Service marketing channels tend to be shorter than channels for products. Commonly the service provider offers the service direct to customers (as in the case of retail banks) or via short chain of intermediaries. Franchising is also a common method of using independent intermediaries in the service industry. (Rosenbloom, 2004. p. 497-500)

Services also have a potential for customization, even to the point of each customer experience being unique. For example, retail banks tailor loans, account options, investment plans and recently also insurances according to each customer's age, income and wealth to maximize sales.

In product marketing channels, the most obvious channel flow is the products themselves moving thorough the channel. In service channels the main flow is that of information, negotiation and promotion. This simplifies channel design as most – if not all – flows can be handled electronically. Airlines' drive toward e-ticketing can be seen as an effort to simplify the channels. (Rosenbloom, 2004. p. 501)

According to Rosenbloom (2004, p. 490-492), five key distinguishing features can be identified.

1. Intangibility of services
2. Inseparability of services
3. Difficulty of standardization
4. Customer involvement in services

5. Perishability of services

Intangibility of services refers to the lack of physical qualities in a service. Products like televisions can be touched, turned on and watched. Manufacturers can also relatively easily to differentiate them from each others by choosing different colors, sizes, shapes and performance characteristics. Services have less tangibility and users have more difficulties in visualizing them. Services are also more difficult to differentiate due to less features – or at least immediately apparent features – available. Some services, like air travel, certainly have physical qualities, like the seat inside the airplane and the food served, but the overall degree of tangibility is low.

The marketing channels offering the service can provide the a direct method of tangibilizing the service and creating a basis for differentiation from customers because the customer is directly exposed to and experiences the service provided by the channel.

Inseparability of services means that a services do not exist as physical entities in and of themselves, they are inseparably linked to the service provider and generally are performed in a certain place at a certain time. A physical product usually has very little dependence of its manufacturer after it has been produced and delivered to the customer. The customer can do whatever he/she wants with the product, even destroy it.

From channel management perspective it is important to understand that all aspect of the channel interactions with the customer are a reflection of the quality of service. Service and the channel are inseparable in the consumer's eyes.

Difficulty of standardization means that since services are tied to the people providing them, certain variability exists. Each service event can be completely different from previous events (like a barber giving haircuts), while mass-produced goods are generally very standardized. Routine and simple services can be standardized to relatively high degree, especially with the help of technology but highly complex services are nearly impossible to standardize.

While standardization of services may not be achievable, careful channel management can help in increasing standardization. However, in multi-channel environments this can be truly challenging.

Customer involvement in services refers to the relatively greater customer involvement via customer preferences, choices and inputs in production of services compared to mass-produced goods. Generally only custom-made products have similar levels of customer involvement. This means greater personalization of services.

A channel designed for providing services should also attempt to facilitate customer involvement. This is perhaps most strongly present in electronic channels, which tend to be highly self-service oriented.

Perishability of services means that since services are commonly tied to a specific place and particularly time, they cannot be stocked in inventory and saved for later use like physical products. Unsold airline seats or hotel stays are lost forever immediately after their due date.

The main managerial implication of perishability is that the channel should be designed to maximize the sale of a service during its limited exposure to the target market. The channel structure should connect as efficiently as possible those providing the service with those desiring to obtain it. Rosenbloom (2004, p. 497) presents American Airline's Sabre as being originally developed as a vehicle for broader and faster coverage of travel agents.

4.1.4 Channel selection between multiple channels

Black et al. (2002) point out that majority of research relating to new distribution channels has focused on adoption of new channels as an alternative to existing ones. But as discussed above, modern distribution is increasingly multi-channeled. The differences in channel characteristics are in effect an opportunity to offer different price-quality configurations to different market segments (Black et al., 2002).

Indeed, both Reardon & McCorkle (2002) and Black et al. (2002) argue that adoption of multiple channels can have a positive impact on a product's performance.

But in multi-channeled distribution the critical issue is how consumers choose their preferred channel. To some extent producers can influence this channel choice by offering incentives for using certain channels (like lower prices or transaction costs). However, consumers have a tendency to use several channels than just one preferred.

Black et al. (2002) point out that consumer channel choice is not always a rational decision.

Reardon & McCorkle (2002) argue that consumers choose a distribution channel that gives them maximum utility for minimum input of household resources. The decision about which channel to use to purchase goods and services is a household production decision, because household members allocate time and resources in the purchase decision. Therefore the consumers' choice of one channel over another can be viewed as an optimization problem.

A consumers channel-switching behavior is influenced by trade-offs. One tradeoff is between time and money. Electronic channels offer the opportunity to save money (for example, search of several travel portals to find the lowest fare), but often there are additional search costs and in the case of physical goods, the costs of shipping & handling and the costs of returning a product if needed. (Reardon & McCorkle, 2002)

Another tradeoff is between time and psychic income. Consumers can view shopping in some product categories as pleasurable and/or social experience, where saving time is not the primary objective. Conducting simple bank transactions in a branch office can been seen in this context. Many internet marketers successfully employ pleasure enhancing strategies like community building, content publishing and special events. In community building customers and web site visitors are encouraged to interact through discussion boards and live chat. This is demonstrated at travel websites like Expedia.com and Travelocity.com. (Reardon & McCorkle, 2002)

Indeed, Barczak et al. (1997) identified motivation as a factor to leading to the choice of one channel over another. Their study found evidence that the use of branch network might be socially motivated.

A consumer's channel-switching behavior is also influenced by perceived risk. While risks of shopping can be associated with traditional shop retailers, these risks are

increased through channels operating from a distance (Reardon & McCorkle, 2002). Also Black et al. (2002) agree that simpler the product in terms of complexity or associated risk, the more channels are considered as a viable option.

The perceived risk is strongly affected by the organization behind the channel. Black et al. (2002) found that organization has an influence on consumer behavior as reputation and range of channels available were key issues. For example, Internet banking was perceived to be less risky if the financial services provider has a branch network. In this context the variety of channels offered was interrelated with the issue of organizational reputation. If motivation is important in channel choice then it may be desirable to accommodate variety in channel choice according to customer motivation.

Product complexity is a strong determinant in channel choice. This interaction between product and channel was demonstrated by Black et al. (2002), who found that low involvement products like basic banking were well-suited to technology-based channels while more complex products were more suited to face-to-face channels. This significance of product/channel interactions was also presented by Morrison & Roberts (1998) who emphasize the need to consider the degree of congruence between a product and channel when evaluating the factors influencing the decision to adopt/use a channel for a purchase.

Understanding the customer includes respecting the customers channel preferences. Best customers should be identified and all channels acknowledge the best customer concept. Customer-centric approach drives managers to develop synergistic channel alternatives rather than competing alternatives. It is vital to recognize that customer channel preferences exist, just as customer product preferences exist. (Schoenbachler & Gordon, 2002)

4.1.5 Channel environment

The channel structure and its participants are affected by various powerful external factors. Rosenbloom (2004, p. 74-103) presents five categories

1. Economic environment
2. Competitive environment

3. Sociocultural environment
4. Technological environment
5. Legal environment

The economic environment encompasses the macroeconomic landscape surrounding the channel participants. The economic cycle – especially recession- can significantly impact businesses. Inflation and deflation directly impact channel participant's and customers' price sensitivity, and also severally affect financing choices. Interest rates are also a key influence in financing.

The competitive environment involves horizontal competition, where same types of firms at the same channel level compete with each other, intertype competition, where firms of different type compete at the same channel level, vertical competition where channel members at different levels in the channel compete and finally channel system competition, where entire channel systems compete against each other.

The sociocultural environment affects all aspects of a society and subsequently also marketing patterns and especially channels. Cultural conventions and traditions often dictate channel behavior, especially considering online channels. Population's age patterns, ethnic mix and educational trends as well as household structure and the role of women all have significant role in determining the channel mix available.

The technological environment is the most rapidly and continuously changing aspect of the environment. Online channels, electronic data interchange between organizations, advances in supply chain and inventory management and increasing mobility all have significant impact to the marketing channel choices.

The legal environment refers to the set of laws and regulations impacting marketing channels. This includes consumer protection, antitrust and other competitive legislation, trade restrictions and business requiring licenses, environmental protection and legislation surrounding contracts are all areas with direct ties to channel behavior. It must also be noted that the legal environment is not static, there is a constant change process at various levels – international (like the EU), national, regional and industry.

4.2 Diffusion theory

Diffusion and adoption research is a wide field, involving and being researched among others in fields of marketing, economics, organizational and social sciences and information systems. Research materials range from introducing new kind of planting techniques in agriculture to the adoption of mobile payment systems.

A literary review of the field is complicated by the fact that three terms - diffusion, adoption and innovation - are often used interchangeably in models of technology adoption. This chapter seeks to present these key concepts and review key literature.

4.2.1 Defining innovation

The necessary first step in discussing diffusion and adoption of innovations is to define the term *innovation*. Rogers (1983, p. 11) defines innovation as *an idea, practice or object that is perceived as new by an individual or other unit of adoption.* In this context, "newness" of the innovation is mainly a perception issue; the actual innovation could have been around for a long time before the adopter learns of it. The term "new" may therefore mean newness in terms of knowledge, persuasion or a decision to adopt/reject.

Nyberg (1998, p. 11) notes that some authors make a distinction between inventions and innovations. The invention then is the new idea, while the innovation is the commercial manifestation of the invention. However, she states that in practice the distinction is hard to make as the process of commercialization is often not linear and several stages may be running in parallel.

Since an innovation is by definition new to the potential adopter, it represents a varying degree of uncertainty and information asymmetry (i.e. the innovation might be closely related to some existing technology or it could be brand new and have a major impact on the adopter). Potential adopters have concerns about the consequences of adopting the innovation and the process of seeking information to reduce this uncertainty lies at the very core of a diffusion process. Only if and when the uncertainty is reduced to an acceptable level, the decision to adopt/reject is made. If information was complete, there would be no uncertainty and the diffusion process would be limited only by the speed of communication. (Rogers 1983, p. 12-13)

4.2.2 Attributes of innovations

Rogers (1983, p. 15) views the adoption rate of each innovation as being mainly driven by the attributes of the innovation. Rogers presents five attribute types:

Relative advantage is the degree to which an innovation is perceived better than the idea it supersedes. The degree of relative advantage may be measured in economic terms but it can also be social prestige, convenience and satisfaction.

Compatibility is the degree to which an innovation is perceived as being consistent with needs, existing values, and previous experience of potential adopters. The adoption of an incompatible innovation often requires the prior adoption of a new value system.

Complexity is the degree to which an innovation is perceived as difficult to understand and use. Naturally complexity is always relative, some adopters may find the innovation simple, while others can have great difficulty.

Trialability means the degree to which an innovation may be experimented with on a limited basis.

Observability refers to the degree to which the results of an innovation are visible to others. The easier it is for individuals to see the results, the more likely they are to adopt.

Rogers' innovation-centric view and the attributes themselves have been criticized by several authors (Elliot, 2002, p. 295) and for example Moore & Benbasat (1991) have developed a measurement instrument known as the Perceived Characteristics of Innovating (PCI) which expands Rogers' framework by adding several new attributes.

In the PCI, observability is deconstructed into visibility and result demonstrability, as the original concept was considered too broad. *Visibility* means the extent to which the innovation is perceived to be widely diffused in the relevant adoption setting and *result demonstrability* refers to the potential adopter's ability to detect the unique features and benefits of the innovation. Furthermore, the model renames complexity as "*ease-of-use*" to achieve greater consistency with the other attributes. (Moore & Benbasat, 1991)

4.2.3 Defining diffusion

Most referenced definition of diffusion of an innovation is by Rogers (1983, p. 5), who defines it as "*a process, by which an innovation is communicated through certain channels over time among the members of a social system*". This process can be either automatic or it can be directed and managed, as typically is the case in a rollout of a new product. As a result of the diffusion, potential adopters (individuals or organizations) become aware of the innovation and decide to adopt or reject it. This is an important point – diffusion is not synonymous with adoption, it can also result in rejection! Adoption/rejection decisions are not always final, sometimes an adopter later decides that the innovation is not as interesting as it originally seemed and rejects it or vice-versa.

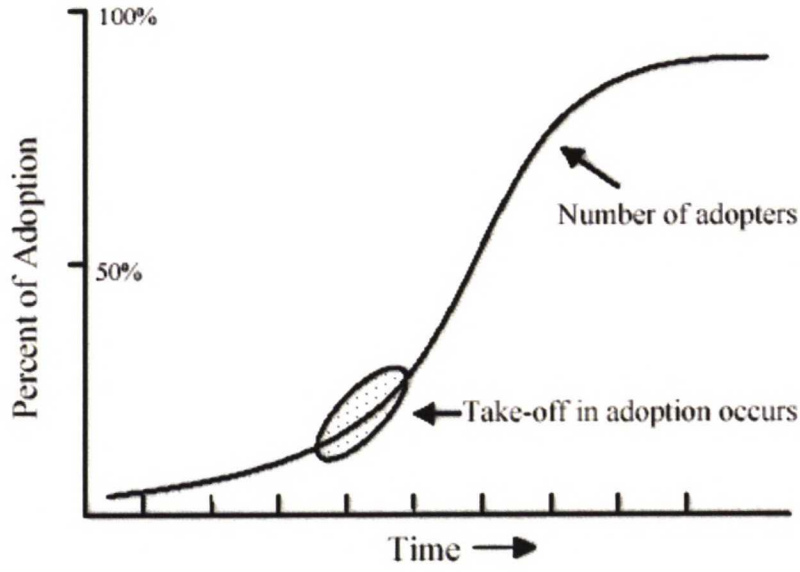
Rogers (1983, p. 164) suggests a five stage model of the innovation-decision process:

1. **Knowledge** occurs when a potential adopter learns of the innovation and gains some understanding of its use and functions.
2. **Persuasion** means the stage where the decision-maker forms a favorable or unfavorable attitude towards the innovation.
3. **Decision** occurs when the decision-maker engages in activities, which lead to a decision to either adopt or reject the innovation.
4. **Implementation** happens if and when the innovation is put to use.
5. **Confirmation** is the stage where the decision-making unit seeks reinforcement of a decision already made. This may lead to a reversal of the earlier decision and the innovation can be discontinued or adopted.

Rogers (1983, p. 23) suggests that as the number of individuals adopting a new idea is plotted on a cumulative frequency basis over time, the resulting distribution is an s-shaped curve. Most innovations seem to demonstrate this S-curve, but there is variation between innovations in the slope of the "S". Some ideas diffuse more rapidly than others and hence their curve is steeper. The reasons for these variations in the rate of adoption are the topic of much of diffusion and adoption research. This paper will illustrate some of these reasons.

The S-curve graphically represents the diffusion of an innovation, with the percentage of adopters plotted on the vertical axis and time represented on the horizontal axis.

Figure 2: The S-curve of diffusion



Innovators and early adopters lie in the lower left hand end of the curve. As time goes on, the percentage of adopters in the social system slowly increases, until a critical mass is reached. Suddenly the curve becomes steeper when 20-30% of the population has adopted and a so-called "take-off" occurs. This event is called *the diffusion effect*, which occurs as self-generated network pressures towards adoption exceed a certain threshold. In other words, each new adopter adds pressure towards the non-adopters until the dam breaks. The location of this threshold varies for each innovation and system, but it would seem to occur near the point where opinion leaders in a system begin to favor the innovation. After this point, the diffusion process is virtually impossible to stop and will snowball towards full adoption. (Rogers, 1983, p. 234-235)

4.2.4 Challenges in diffusion research

A significant weakness in most diffusion research is the *a posteriori* nature of the field. Empirical examination of a diffusion process is often carried out after the diffusion process is completed. This results in the researchers having to rely on

memories of the individuals or organizations interviewed. In addition to weakening the reliability of the results, another effect of this is that the research then tends to exhibit a so-called pro-innovation bias (Rogers, 1983, p. 95). This means that the research focuses mostly on *adopters* and rejecters are ignored, as they are far more difficult to locate for the study. According to Rogers (1983, p. 95) investigation of the diffusion is possible while the process is still underway, but this seems to be more rare.

The usefulness of diffusion research results is lessened by the fact that each diffusion process is unique. Diffusion is the sum of various drivers, but research normally applies to a single period, single innovation and single social system. However, any such complex process is subject to random external events that can boost or disrupt adoption. Accidents and activity by a competitor or the legislator can have significant – and unpredictable – results.

One more complication is the common phenomena of continued innovation, where the innovation can change during the diffusion process. This is normal in the diffusion of complex innovations, where the process takes time. In intangible innovations the adopters also introduce variation as each adopter can adopt a slightly different version of the innovation. (Rogers, 1983)

4.3 Adoption research

According to Pedersen (2001), adoption researchers typically describe and explain the adoption decision of individual end-users applying cognitive and social theories of decision-making. While diffusion models are models of the aggregate rate of adoption of a technology or service, adoption models try to specify the conditions and requirements for adoption at the industry, firm and individual level (Frambach et al., 1998, ref. Pedersen, 2001).

Pedersen (2001) credits three models as most popular - Davis' (1993) Technology Acceptance Model (TAM), the Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980, ref. Pedersen, 2001), and the Theory of Planned Behavior model (TPB) by Ajzen and Maddon (1986, ref. Pedersen, 2001). Of these three, TAM is perhaps the most widely referenced model of adoption in IS research today.

According to Elliot (2002), TAM contends that the sole determinant of use of technology is the intention of the user, which is based on perceptions of the ease of use of the technology, and of its usefulness. He also states that the major disadvantage of TAM is that it excludes the influence of institutional, social and personal control factors.

Plouffe et al. (2001) points out that virtually all adoption research assumes that the innovation has only a single adopter group – the end user (individual or organization), However, intermediating technologies require more than one group to adopt in order to be successful. These groups are likely to have different priorities for adopting. The research by Plouffe et al. (2001) illustrates this by empirically examining the diffusion of a payment system, where the consumer must adopt a smart card and the merchant must simultaneously adopt a payment terminal in order to be able to accept the card as a method of payment.

Eastin (2002) concludes in his research that while e-commerce adopters view online activities like banking, shopping, investing and services as unique, once they adopt one of these activities, they also tend to adopt others. Rogers (1983, p.226) calls this phenomenon *technological clustering*, which occurs when adopters of one innovation perceive another new idea as being closely related.

Redmond (2002) points out that consumers in developed economies are constantly exposed to new products and services via new product launches and this widespread exposure to newness makes consumers more willing to accept innovations than before.

4.4 Integrative adoption model

The research of Steven Elliot (2002) attempted to identify a theoretical framework for further research into B2C e-commerce. In reviewing the existing literature he found that while much literature is available discussing innovations, social factors of adoption as well as organizational and management models for adoption, only two models incorporating the significance of environmental issues were identified. Kwon and Zmud (1987, ref. Elliot, 2002) have proposed a Five Forces model of innovation that includes innovation, organizational and environmental factors. Scott-Morton

(1991, ref. Elliot, 2002) has introduced the MIT90 framework of forces supporting organizational transformation.

In response to the disparate theoretical field, Elliot (2002, p. 299) presents an *integrative adoption model for B2C e-commerce*. Elliot (2002) bases his model on the abovementioned model by Kwon and Zmud (1987, ref. Elliot, 2002). The model is extended to address shortcomings in theories of innovation characteristics, organizational and inter-organizational roles/functions, environmental factors (both cultural and international) and in consumer issues.

The framework was initially tested with a qualitative study involving a series of case studies built through interviews of key strategic, technology and implementation personnel as well as numerous consumers in Australia, United States, United Kingdom, Denmark, Hong Kong (China) and Greece. The research resulted in validation of the model after some modifications.

The model incorporates four categories of adoption drivers: environmental, organizational, innovation and consumer factors. The resulting framework is illustrated below:

Figure 3: Integrative adoption model for B2C e-commerce (Elliot, 2002, p. 300)

Each of these four categories contributes to the adoption process. Even though they are illustrated separately, Elliot (2002, p. 320) notes that a degree of integration exists between the categories and that they should not be considered fully independent of each other.

Following chapters examine the categories in more detail.

4.4.1 Environmental factors

According to Elliot (2002, p.321) the environmental adoption drivers could be categorized as follows:

Uncertainty about the Internet and how it could be used most effectively.

Industry and competitive factors, meaning the general rate of change in the industry and the level of competitor activity in the market. Also supplier resistance and channel conflicts are relevant in this area.

Financial and other support for the innovation meaning the funding and other resources necessary to develop the e-commerce initiative. This is especially important to start-ups, but also established companies find this crucial. The key issue is management commitment.

Customer acceptance, measuring the general level of internet usage and the acceptance of e-commerce initiatives.

Inter-organizational imperatives mean the necessity to modify or revise a firm's intentions or business approach to incorporate requirements from other organizations. This depends on the degree of integration of core business functions with other organizations.

Infrastructure is broadly defined as the underlying readiness for e-commerce. It includes legal and regulatory readiness (i.e. no laws forbid the activity), technical infrastructure (power and telecommunications), financial infrastructure (payment systems for e-commerce) and the delivery infrastructure required for delivering the products or services to the customers.

Cultural and international factors mean established customs and attitudes inhibiting or promoting the adoption of b2c e-commerce. Elliot's research noted that in some of the areas studied there seems to be a strong preference for face-to-face transactions.

4.4.2 Organizational factors

Organizational adoption drivers presented in the model are as follows.

Strategic adopter means a person within the organization – founder, CEO or other executives – who is the decision-maker for the e-commerce innovation. His/her personal qualifications, background and relevant prior experience can have a profound impact on the organizations chosen path.

Strategic motivation refers to the organizations underlying motivation for pursuing e-commerce. It is derived from inspiration from Internet pioneer or it could result from a perceived business threat or opportunity.

Business models and strategies refer to the link between corporate strategy and e-commerce. In some organizations studied, e-commerce was a clear part of the strategy and business model, but in other organizations the relationship was loose or nonexistent.

Skills at strategic, tactical and operational levels are highly relevant for successful adoption of e-commerce and their lack contributes to greater uncertainty. The qualities of individual employees can be relevant, especially if they are key persons to the project.

Organizational structure and tasks were also identified as possible contributors to the decision-making. There can be uncertainty about the responsibilities and resources required for e-commerce. This was considered a lesser problem for established firms than for start-ups.

4.4.3 Innovation factors

The attributes of the innovation itself were naturally considered as being relevant to the adoption process. Elliot's research analyzed the e-commerce attributes via a CEC web evaluation framework (introduced in Elliot, 2002, p. 263), which concentrates on the properties of a website. This a somewhat narrow view, but the attributes identified can certainly be applied more broadly.

Elliot (2002, p. 374) analyzed attributes like **compatibility, complexity, relative advantage, trialability, observability, usefulness and ease of use**. Complexity and relative importance were rated very important in e-commerce ventures but compatibility was considered less important due to the radically new nature of the innovation. This seems somewhat strange, as compatibility with existing legacy

systems should definitely be an issue for established companies when dealing with e-commerce initiatives.

Closely related are identified attributes of **distinguishing characteristics or features** and **perceived costs/benefits (to the firm)**. An innovation must by definition be perceived as new and distinguishable from existing systems. Perceived costs and benefits must certainly be critical for the company's adoption decision-making, but this category should be covered by attributes like relative advantage, complexity and compatibility.

4.4.4 Consumer factors

The research of Elliot (2002, p. 316) identified that consumers have both perceived major benefits and major concern factors of e-commerce. The factors found are listed below.

Major benefit perceptions identified were:

- Convenience in purchasing 'anytime, from anywhere, to anywhere'
- Cost savings through lower prices
- Availability of products
- Quality of products
- Responsiveness in product delivery, e.g. 'instantaneous delivery of digital goods and services'.
- Increased customization, e.g. 'capability to treat customers as individuals'

Major consumer concern factors were:

- Security
- Uncertainty about delivery
- Uncertainty about products
- Purchase procedures/ease of use/usability
- Poor levels of service

- Costs

4.5 Summary

The chapters above examined the basic concepts of marketing channels and channel selection.

Then the diffusion theory and innovation properties were discussed, followed by an insight into the adoption research.

Finally the integrative adoption model by Elliot (2002) was presented and discussed.

5 RESEARCH FRAMEWORK

Using the Elliot framework and the channel selection literature presented in the previous chapters, a research framework with more focus and a better fit for the industries examined is developed.

Supporting (or conflicting) literature is then examined and placed into the framework's context.

5.1 Adapted research framework

For the purposes of this study the entire Elliot framework is too broad, covering virtually all aspects of e-commerce initiatives. Furthermore, certain factors fit poorly the industries examined.

Therefore the Elliot framework will be further adapted to include key factors for the purpose of this study.

5.1.1 Environmental factors

According to the literature reviewed, several of these factors have played a key role in driving the adoption of multi-channel services. Therefore it is necessary for this study to include some of them.

- **Industry and competitive factors**, meaning the general rate of change in the industry and the level of competitor activity in the market. Also supplier resistance and channel conflicts are relevant in this area. As deregulation has enabled cross-border competition and co-operation, the international factors are included here.

- **Customer acceptance**, measuring the general level of internet usage and the acceptance of e-commerce initiatives. The cultural aspect of e-commerce acceptance is added here as it is a subset of the overall concept.

- **Inter-organizational imperatives** are potentially relevant, as deregulation has enabled new kinds of bundled services as well as increasing co-operation (i.e. airline alliances).

However, several of the factors belonging to this category are less relevant or redundant for this study:

- **Uncertainty about the Internet.** This factor is irrelevant to the scope of this research as all case companies are already e-commerce adopters. All the businesses examined already have an Internet e-commerce presence and have developed it strongly.

- **Financial and other support.** The companies examined have certainly enough size and financial strength to make the necessary financial investments towards e-commerce and have demonstrated their willingness to make those investments. However, the issue of management commitment is certainly relevant to this study but it is better examined under the strategic adopter heading in organizational factors.

- **Cultural and international** factors are also excluded as a separate category as they are discussed along with industry factors and customer acceptance.

- **Infrastructure** factors can also be excluded from this study. The Nordic region has no significant legal or regulatory constraints towards e-commerce, the telecommunication and IT-infrastructure are extremely well developed and the financial system is among the most advanced in the world with electronic transactions being the accepted norm. It can therefore be assumed that these factors have not been a constraint to adopting e-commerce.

5.1.2 Organizational factors

The organizational factors can be seen as having strong linkages to the environmental factors, especially in the areas of strategic motivation and business models. They should therefore be included in the research framework.

- **Business models and strategies** is naturally a critical factor to examine and should not be excluded.

Some of the organizational factors are considered to be redundant:

- **Organizational structure and tasks** can be seen as an integral element of business model, as channel structure (and consequentially also possible channel conflicts and cannibalizations) should be viewed as a vital strategic

choice for the industries examined. Hence it is combined with business models and strategies -factor.

- **Strategic motivation** is in practice difficult to distinguish from industry and competitive factors, and therefore it is not reviewed as a separate factor.
- **Strategic adopter** and **skills at strategic, tactical and operational levels** are excluded as being internal and often tacit drivers and hence difficult to analyze and quantify in a more general industry review. In practice, they do not suite this researches methodology.

5.1.3 Other excluded categories

The consumer and innovation factor categories are excluded from this research as lying outside the immediate research scope. They would certainly warrant further study, but they are considered to be separate fields of research.

5.1.4 Summary

The research framework can be summarized in the following table:

Factor	Type	Extra
Industry and competitive factors	Environmental	
Business models and strategies	Organizational	Includes also channel structure
Inter-organizational imperatives	Environmental/Organizational	
Customer acceptance	Environmental	Socio-economic factors driving customer motivation

5.2 Airline industry

Industry and competitive factors:

The significance of deregulation of air traffic and the resulting consolidation and entry of low-cost airlines has been noted in several studies, for example Bouvard & Somosi (1997) see deregulation as an change driver that will necessitate industry consolidation and forces airlines to strengthen their grip on their distribution or risk losing their market power to travel agents due to increased competition. This trend is only strengthened by new technology.

Also Piga & Filippi (2002) note this deregulation, especially from the viewpoint of market entry by low-cost airlines with new operating methods and resulting in cost advantages over traditional airlines.

Both Boyd & Bilegan (2003) and Garrow et al. (2006) discuss the effects of increased availability and comparability of ticket prices due to online distribution. This commoditization has lead to substantial price sensitivity in consumers and their brand loyalty is weak at best.

Business models and strategies:

In their quest to reduce ground-based costs and also to better control their distribution as well as information flow, airlines are seeking to disintermediate travel agents and other middlemen as well as reduce the power of the large GDS systems. This has been noted in the research of Pötzl (2000), who notes that these intermediaries are not essential for delivery and therefore extremely vulnerable to disintermediation. E-ticketing is also seen as an element in a stealth strategy to directly customer access. Also Bouvard & Somosi (1997) discuss the possibility of disintermediation but a more general level.

The role of frequent flyer programs should not be overlooked either. Driver (1999) discusses their role as barriers of entry by increasing the switching costs of customers. Airlines also use partner networks (hotels, car rentals) as a method of directing the costs of frequent flyer rewards away from their marketable capacity – after all it is much better to give the reward as a car rental and sell the spared seat at a profit.

Inter-organizational imperatives:

While the concept of disintermediation was discussed in the paragraphs above, it is relevant to also consider the possibility of resistance by downchannel participants. It would be irrational for travel agents, tour operators and GDS:s to allow them be put out of business without any reaction.

Shon et al. (2003) describe how in Hong Kong tour agents allied to boycott Cathay Pacific Airways because the airline offered extra low fare products on the Internet. The web-only price was believed to have been even lower than the cost for agents to purchase a similar ticket. Shon et al. (2003) also point out that this kind of resistance is only possible at the first stage of digitalization, and only within the industries that heavily depend on their channel members.

It is also possible for airlines to leverage knowledge of their distribution channel partners. Christiaanse & Venkatraman (2002) describe how American Airlines took advantage of regulations that every airline is entitled to get their competitors' reservation data as a safe guard against preferential pricing. American used this information to analyze the performance of travel agents which enabled them to create targeted incentives to travel agents for favoring American Airlines' flights.

Customer acceptance:

Cultural values tend to affect consumers tolerance for risk and hence less risk-tolerant travelers seem to prefer consulting professionals rather than making travel arrangements personally. The research by Money & Crotts (2003) examined this phenomenon by comparing Japanese and German tourists.

5.2.1 Summary

The following table summarizes the findings.

Factor	Reference	Key finding
Industry and competitive factors	Bouvard & Somosi (1997)	Deregulation, consolidation and technology driving change

	Piga & Filippi (2002)	Low-cost airlines operate at a cost advantage to traditional airlines
	Boyd & Bilegan (2003)	Commoditization of air travel increases price sensitivity
Business models and strategies	Pötzl (2000) and Bouvard & Somosi (1997)	Trend towards disintermediation and direct sales.
	Driver (1999)	Frequent flyer programs used to increase barriers of entry and customer lock-in.
Inter-organizational imperatives	Christiaanse & Venkatraman (2002)	Additional performance gains can be obtained though leveraging knowledge in interfirm relationships.
	Shon et al. (2003)	Travel agents can resist disintermediation efforts by airlines.
Customer acceptance	Money & Crotts (2003)	Risk-averse cultures prefer professional service to self-service

5.3 Retail banking industry research

Industry and competitive factors: One of the most important recent trends has been deregulation of the financial sector. This has been taken place in several countries around the world. Key examples would be the so-called London Big Bang of 1986

caused by the UK Financial Services Act, which deregulated the financial markets and the repeal of the U.S. Glass-Steagal Act, which previously separated commercial banking from investment banking.

The European Union has boosted financial integration by enacting the Single European Act in 1987, guaranteeing the free movement of capital within the Union. Monetary integration culminated with the introduction of the Euro currency in Jan 1, 1999 by fifteen EU member states, eliminating currency risk and removing interest rate barriers.

Beginning from 2008, the Single Euro Payments Area (SEPA) project will enable European citizens and enterprises to make payments throughout the Euro area from a single bank account using a single set of payment instruments. In addition, national infrastructures should migrate to a pan-European payments infrastructure by the end of 2010, which means that any new payment system investments need to be fully SEPA compliant.

Heavy deregulation has led to increased competition cross-borders and also cross industries. Retail banking is seeing numerous new entrants as insurance companies, building societies, credit card companies, investment brokers etc are beginning to offer financial services to their existing customers as well as attracting new ones (Devlin, 1995 and Mols, 2000).

Naturally deregulation has enabled banks to offer new kinds of service packages, i.e. combinations of insurances, investments and traditional financial products. This has actually led to a consolidation process as banks, insurance companies and investment brokers have first begun to cooperate and bundle their products and then later merge completely.

Another factor contributing to the lowering of barriers of entry has been IT. While it is true that starting retail banking from a scratch requires heavy investments in IT, the reduced role of bricks-and-mortar offices means far easier entry (Devlin, 1995 and Vesala, 2000, p. 11 and Evans & Wurster, 1997, ref. Mols, 1999, p.295). Banks lack sole property rights over the most important IT developments (Fincham et al., 1994, ref. Bátiz-Lazo & Wood, 1999). Information technology applications have allowed non-finance providers to supply financial services while exhibiting a low-cost structure relative to established participants in bank markets (Channon 1988, ref.

Bátiz-Lazo & Wood, 1999). This would suggest that banks' traditional distribution strategies and widespread use of IT in developing new distribution channels provide only low sustainability of competitive advantage against non-finance providers (Bátiz-Lazo & Wood, 1999).

Strategic motivation: According to Pennings (1998, ref. Yakhlef, 2001), retail banks do not have much choice in adopting new technologies, as failure to do so would leave them dangerously handicapped. The question is not about gaining a competitive advantage, but rather about maintaining a status quo and building a platform for further service and product development. Considering that according to Bátiz-Lazo & Wood (1999), the move towards multi-channel distribution systems has resulted in transactions at the teller representing 10% or less of total transactions, the previous argument by Pennings would seem highly valid.

Inter-organizational imperatives can have an impact if a bank has built strong ties to complementary companies, like mutual funds and insurance companies. These ties can even mean IT integration. Yiu et al. (2007) comment that the banking sector will need to consider adopting concepts from other industries and lessons learned from other Internet evolving products and services. Such developments include the need to consider packaging products and services for consumers and personalizing elements. Yiu et al. (2007) suggest that this may take the form of pushing additional links or strategic networks onto customers to provide greater connectivity of the products and services and to create a more holistic buyer experience. This means co-operative developments where the strategic network is composed of a series of interlinked industries and organizations working to create added value in as seamless a way as possible.

Business models and strategies & organizational structure and tasks are quite interrelated in the context of multi-channel retail banking. For a long time the only practical method of gaining competitive advantage was the improvement of distribution by increasing the geographic coverage of the branch network. According to Devlin (1995), decisions regarding branch location and feasibility were often driven by organizational rather than market needs. This was possible due to minimal competition in retail banking.

As a result banks now tend to have cumbersome branch networks designed for transactional banking, not advisory (Yakhlef, 2001; Devlin, 1995). The number of branches will need to reduce if the diffusion of electronic services continues. The branches' interiors will also have to be redesigned as they are now suited for transactional banking, meaning the processing of routine account activities. As a result, branches will move away from a transaction-centric layout to a more customer-oriented design.

Devlin (1995) suggests that an important driver for developments in retail banks is the partial centralization of several routine functions previously performed by the branches. This leads to extra resources becoming available at branch level.

Holmsen et al. (1998) identify four critical organizational questions that bank's management needs to solve with multiple channels:

1. Who owns the customer?
2. How are operational issues resolved?
3. How are managers measured and rewarded?
4. Where does each business fit?

Customer ownership refers to the traditional approach of assigning a specific branch office as the primary contact point of a customer. The branch would then include that customer in its profit and loss reporting. This approach is difficult to justify in a multi-channel framework, where a customer might never visit a branch. But branch managers have little incentive to give up customer ownership, which can create conflict.

Operational issues refers to the question of who is responsible for controlling what service a specific customer receives and how. The traditional method is the aforementioned branch-centric customer ownership; other alternatives are customer segment based model and channel management organization, where each channel manager has autonomy. This is a crucial point, as it must answer key value proposition issues. Will every customer have access to the whole service portfolio? Will there be incentives (or disincentives) for using certain channels? Should different channels or products be separately branded?

The question of *performance measurement and rewards* is also highly pertinent. Profit and loss is difficult to allocate in a multi-channel organization, which means reduced accountability and increased agency problems. Automated channels like online and mobile banking are likely to handle most routine, low margin transactions and thus be important but not necessary very profitable. Branches will handle less and less transactions with fewer customers, but they will be more complex and more profitable (like mortgages). They will also continue to be an important sales channel and customer contact point. From this it is easy to analyze that each channel will require different performance measures.

The question of *fitting each business into the organization* refers to the practical managerial issues rising from the previous questions. Are channels managed in a tightly centralized fashion or are they separate, even competing against each other? Also the management of corporate functions like marketing, brand management and IT is critical as each channel is likely to have individual needs.

Customer acceptance: Several authors have reported a relationship between the adoption of online banking and the penetration of Internet access (Eastin, 2002; Bughin, 2002; Karjaluoto et al., 2002). Low Internet penetration implies poor network facilities and undeveloped legal frameworks for electronic transactions. The lack of such legal structures would certainly discourage both banks and customers from conducting daily banking electronically. Cultural values are likely to have an impact on e-banking just as much (if not more) than e-commerce, but in the course of this research no conclusive analysis was found.

But Internet penetration is certainly not the whole truth as some countries with high penetration have been very slow with e-banking. According to Karjaluoto et al. (2002), in the summer of 2000 Deutsche Bank (the biggest bank in Germany) had just 100,000 e-banking users while Nordea Bank had 1,4 million. This difference cannot be explained by similar differences in Internet penetration in the two countries.

5.3.1 Summary

Following table summarize the findings:

Factor	Reference	Key finding
Industry and competitive factors	Bátiz-Lazo & Wood (1999)	IT cannot create sustainable competitive advantage
	Devlin (1995) Mols (2000)	Deregulation allows new entrants to the market
	Devlin (1995) Vesala (2000)	IT lowers barriers for entry
Business models and strategies	Yakhlef (2001) Devlin (1995)	Branch networks designed for routine transactions
	Holmsen et al. (1998)	Customer ownership challenging
Inter-organizational imperatives	Yiu et al. (2007)	Strategic network composed of interlinked industries and organizations creating added value in as seamless a way as possible.
Customer acceptance	Eastin (2002) Bughin (2002) Karjaluoto et al. (2002)	Online-banking acceptance & Internet penetration linked

6 INDUSTRY EVIDENCE

In the next part of this study, the two industries are examined using the Elliot framework as a tool of differentiating industry events and trends into appropriate categories.

The empirical part of this research is conducted via a general industry examination, using public data sources, including statistics, business analyses and publications, media reports and company press releases and financial reporting.

The examination is not restricted to a certain set of companies, but instead the entire field is examined. This is largely due to the small size of the Finnish market and the resulting low number of key businesses.

6.1 Retail banking

The following chapters will examine the Finnish retail banking sector through the Elliot framework. The aim is to examine the assumptions found and to seek their validation or evidence to the contrary.

At the end of 2007 the Finnish retail banking sector consisted 323 Finnish and 15 foreign retail banking entities with operations in Finland. Some of the banks, especially the foreign entities are more or less niche operations only, having very few select customers.

The biggest domestic banks were the OP-Pohjola Group, Nordea Finland and Sampo Bank, followed by a mass of mid-tier banks.

6.1.1 Industry and competitive factors

Deregulation allows new entrants to the market

The rate of change in the Finnish retail banking sector is considerable.

The last ten years of Sampo Bank are a case in point. In 1997, the state-owned Post Bank merged with Finnish Export Credit Ltd to form Leonia Group, which then in 2000 merged with Sampo Insurance to form Sampo-Leonia. In 2000 the company acquired Optiva bank in Estonia and Lietuvos Vystomo bankas in Lithuania. In 2001 they acquired the Finnish Mandatum Bank. In Latvia, Sampo acquired Maras Banka

in 2004. In November 2006, Sampo Group announced the divestment of Sampo Bank to Danske Bank A/S of Denmark.

Nordea Bank is another fine example of this process. In 1997 Merita Bank of Finland and Nordbanken of Sweden announced their merger into MeritaNordbanken, followed by merging with Unidanmark of Denmark in 2000. Later in 2000, Christiania Bank og Kreditkasse of Norway was acquired and the new pan-Nordic bank announced their new name Nordea. Also in 2001, Nordea acquired Postgirot Bank of Sweden. Further expansion includes acquisition of LG Petro Bank in Poland (2002), Kredyt Bank operations in Lithuania (2004) and Orgresbank in Russia (2006). Nordea also has retail banking presence in Estonia and Latvia.

Most recently Sampo Group announced that they had exceeded 10 % share of Nordea Bank's common stock, marking their return into the retail banking sector.

Also Icelandic banks have been active in the mergers and acquisition arena. In 2007, Glitnir acquired Finnish investment company FIM Group and Straumur-Burdaras acquired the Finnish e-trade company and bank EQ Online.

IT lowers barriers for entry

Online banking penetration in Finland is extensive, with 4.3 million online banking contracts (a growth of 11% from 2006) generating some 316 million account-to-account transfers (+9% from 2006). All in all, there were 1.4 billion transactions within the retail banking sector in 2007, and 96% of them were electronic. It would therefore seem that purely electronic banks could succeed in the marketplace without any physical offices.

However, this assumption is challenged by the fact that none of the new market entrants (like Tapiola and S-Bank) are greenfield, but instead they are existing businesses entering retail banking business. Entrants like Kaupthing and Glitnir do not even strive to become day-to-day banks, but instead they wish to attract 'lazy money', a customer segment seeking second or even third bank to spread out their savings.

Both Tapiola and S-Bank do illustrate the lowering barrier in that they have both acquired their banking IT-infrastructure from Crosskey Banking Solutions, a

subsidiary of Ålandsbanken. The availability of such off-the-shelf software does facilitate entry, but still both entrants carry extensive branch networks.

IT also presents a barrier to entry. Finnish B-to-C e-commerce payments are widely based on the store establishing and interface with the bank's direct debit system. Especially risk-averse consumers are wary of providing their credit card information and favor these direct debit payments. However, the interfaces are all proprietary and vary bank to bank. New banking entrants need to persuade the retailers to offer an interface to their system. Support for large banks, like Nordea and Sampo, is universal, but banks like Ålandsbanken are not represented by no more than few businesses.

Another growing requirement is for a bank to implement the TUPAS interface for online identity authentication. TUPAS defines a protocol via which the service provider (like the Finnish Tax Authority) identifies the user, whereupon the user needs only a browser and his or her e-banking access codes.

Consumer expectations are also growing with the slowly advancing adoption of e-billing and e-paychecks, which are standardized protocols for B-to-C transactions. While still not widespread, they represent yet another level of complexity for a market entrant and are likely to transform from added value –features into must have features.

The introduction of the SEPA (Single European Payment Area) will lower the barriers of entry by harmonizing payment standards and removing national implementations, which will mean reduced IT development costs for multinational banks. But also smaller national banks can benefit from increased competition between IT solution providers, previously restricted by national payment standards.

IT cannot create sustainable competitive advantage

Ålandsbanken has attempted to turn IT into an advantage by first developing their own banking system and then creating a subsidiary called Crosskey Banking Solutions to develop and sell it to other banks. Several new entrants, like EQ Bank, S-Bank and Tapiola Bank use Crosskey's systems for their key services. Willingness to give competitors access to their technology is a strong indicator that

Ålandsbanken's management does not perceive IT as a sustainable competitive advantage in the traditional, operational sense. This would also suggest that these new entrants, like Tapiola and S-Bank, likewise consider IT as a resource that can comfortably be sourced from a competitor.

6.1.2 Business models and strategies

All Finnish retail banks examined have similar service offerings, with main differences arising from the magnitude of insurance operations. Tapiola Bank for example is an insurance company with a retail banking arm, while Nordea is a bank with insurance offerings – difference is in the emphasis.

Ålandsbanken differentiates not only by targeting the Swedish speaking minority but also the upper middle class by offering Premium-branded service, which includes more flexible and personal customer service. They also have different interest rates according to the amount in the account. Similarly Nordea segments its customers in three categories according to wealth and amount of outstanding credit.

S-Bank is an interesting entrant as it is the retail banking arm of a retailing cooperative with department stores and grocery business, among others. The S-Group essentially converted its cooperative shareholder base into initial banking customer base by automatically creating a bank account for every shareholder and storing the shareholders store credit there. S-Bank has quite vocally differentiated itself as the bank that offers face-to-face routine banking as opposed to the incumbent banks. is the ability to offer basic banking at its retail locations across Finland. A client can withdraw funds at any cash register within the S-group.

Let us assume an average income consumer, with a regular account for daily use, a constant balance of 3,000€, a single debit card and an account report mailed home once per month. There are no special packages, list pricing only. The following table summarizes the service fees per type of service and interest rates offered. The final column calculates the estimated monthly cost of banking, with service fees offset by accrued interests, assuming no transactions at the counter.

Table 1: Banking fees and interest rates

	Direct transfer from account				Monthly fee for online banking	Interest rate	**Total monthly**
	Counter	Call center	Mobile	Online			
S-Bank	N/A	4.00 €	N/A	- €	- €	2.25 %	**-2.63 €**
Tapiola Bank	10.00 €	5.00 €	- €	- €	6.00 €	2.25 %	**6.21 €**
Nordea Bank	4.00 €	- €	- €	- €	3.30 €	0.15 %	**3.73 €**
Sampo Bank	4.00 €	4.00 €	- €	- €	3.40 €	0.10 %	**3.15 €**
Ålandsbanken	3.50 €	N/A	- €	- €	2.50 €	0.00 %	**3.21 €**

S-Bank offers no transaction services at the counter. Tapiola Bank treats them as express transfers and prices accordingly. Ålandsbanken offers interest rates between 2.25%-3.25% when account balance is >7,500€. Nordea and Sampo calculate interests based on lowest monthly balance, others use daily balance. Tapiola Bank charges 5.00€ for mailed account report.

S-Bank has the lowest overall costs and an excellent interest rate. But despite positioning themselves as the bank with personal service, they are the only one without any bill paying service at the counter, although also Tapiola Bank lists the service as in "emergency only". Tapiola would be the second best option, but they charge 5€ per paper account report.

But from a pricing perspective the only clear differentiator is S-Bank. Ålandsbanken becomes far more attractive once account balance climbs over 7,500€, they are clearly uninterested in low-income customer segments.

Surprisingly, the newest entrants (S-Bank and Tapiola) offer no mobile banking solution at this time. All, except Ålandsbanken offer call center service. In general, it is obvious that the banks strongly promote online banking by charging punitive rates for transactions made at the counter. However, there are no other incentives to use self-service banking and indeed most of the banks charge a monthly fee for an online banking contract.

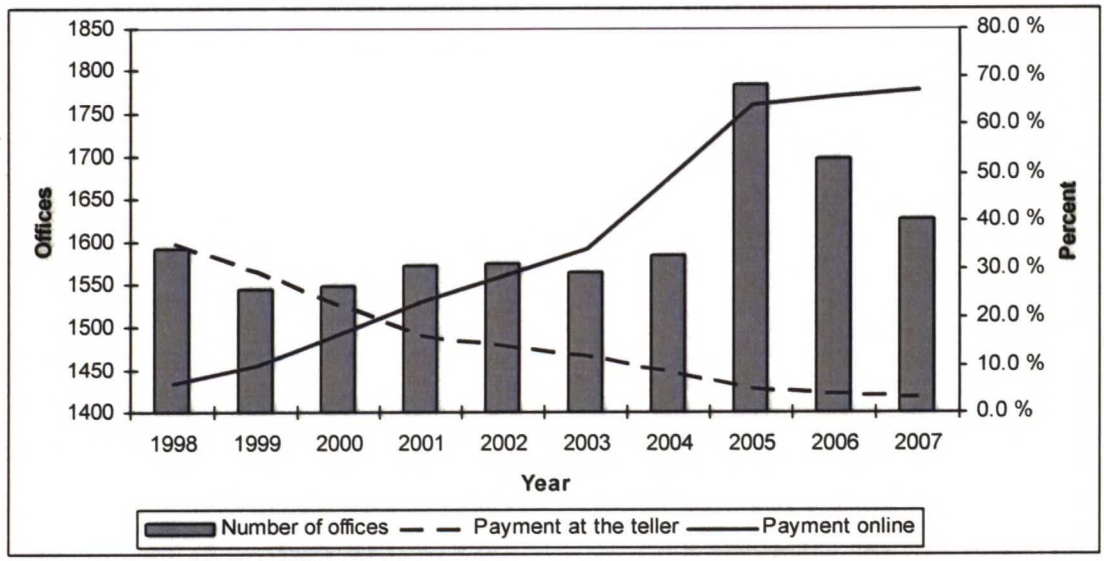
Branch networks designed for routine transactions

The underlying assumption here is that incumbent banks are suffering from inefficiencies of branch networks that are ill-suited for current distribution system. This would imply fewer offices with less employees, possibly with higher skill specialization.

However, we find that this emphasis on self-service channels has had a tremendously small impact on the number of branch offices. This is illustrated by Figure 4, with number of offices represented by columns and online and teller-based account-to-account payment methods in the two trend lines. Interestingly we can see that while

payments have moved from counter-based transactions to online self-service events, the number of offices has remained steady (the jump in 2005 was caused by calculating also Pohjola insurance company offices).

Figure 4: Trends in branch offices and payment profiles



Looking at the underlying statistics presented in Table 2 below, we can also see that during the same period of 1998-2007, the number of personnel in Finnish retail banks has remained between 25,000 and 22,800, being 24,100 at the end of 2007.

Table 2: Trends in Finnish retail banking (Federation of Finnish Financial Services, 2008a)

			Payments	
YEAR	**Personnel**	**Offices**	**At the counter**	**Online**
1998	25000	1591		
1999	24300	1545	29.0 %	10.0 %
2000	24600	1549		
2001	24800	1571	16.0 %	23.0 %
2002	24500	1573		
2003	23400	1564	12.0 %	34.0 %
2004	22800	1583		
2005	23000	1783	5.0 %	64.0 %
2006	24000	1698		
2007	24100	1627	3.0 %	67.0 %

Obviously banks have been unable or unwilling to reduce existing branch office structures or their personnel. However, the reduction of at-the-counter transactions signals that personnel roles have shifted towards sales and customer management. Given the substantial growth in banks' profits under the recent years, it appears that banks have been able to reap the benefits of this process.

Table 3: Banks' operating profit 2005-2007

	2007	2006	2005
OP-Pohjola Group	1005.0	800.0	579.0
Nordea Bank Finland Plc	1704.0	1639.0	n/a
Sampo Bank	110.0	355.0	316.0
Savings banks	94.2	73.1	53.0
Aktia	64.9	54.8	49.0
Local cooperative banks	58.6	46.5	33.0
Ålandsbanken	28.6	21.1	19.0

6.1.3 Inter-organizational imperatives

The conglomeration of retail banks and insurance agencies is a powerful indicator of inter-organizational imperative driving both business structure and distribution.

In 2004 the Tapiola Group, born in a merger in 1984 and with a history dating to 1857, established Tapiola Bank as its retail banking arm. While the move was dictated by the competitive pressure to diversify – as well as the lack of a suitable bank to partner with, the logic behind this diversification is sound – retail banking provides an insurance company substantial distribution channel for their insurance products and is also complimentary in the investment product area. Likewise deposits provide a significant amount of capital for their external investment activities. From online channel perspective, there are significant synergies involved as both industries – banking and insurance – have similar IT infrastructure needs and solutions. While their basic operating systems are different, Tapiola's expansion was made possible by their ability to acquire their system from Ålandsbanken. Tapiola has been able create an integrated customer portal with all the elements of their offering available, enabling the customer to view his insurance contracts and make remuneration applications, view his bank accounts and make payments and also view investment funds and make investments in them as well as buy shares.

A similar entity is the OP-Pohjola Group, born when OKO Bank acquired the Pohjola insurance company in 2005. In March 2008, the OKO Bank changed its name to Pohjola Bank. The group also consists of 229 independent savings banks. But while the rationale behind this amalgamation is identical with Tapiola Group,

OP-Pohjola has not yet been able to leverage its full portfolio online, and still offers independent online services for its insurance and banking service lines.

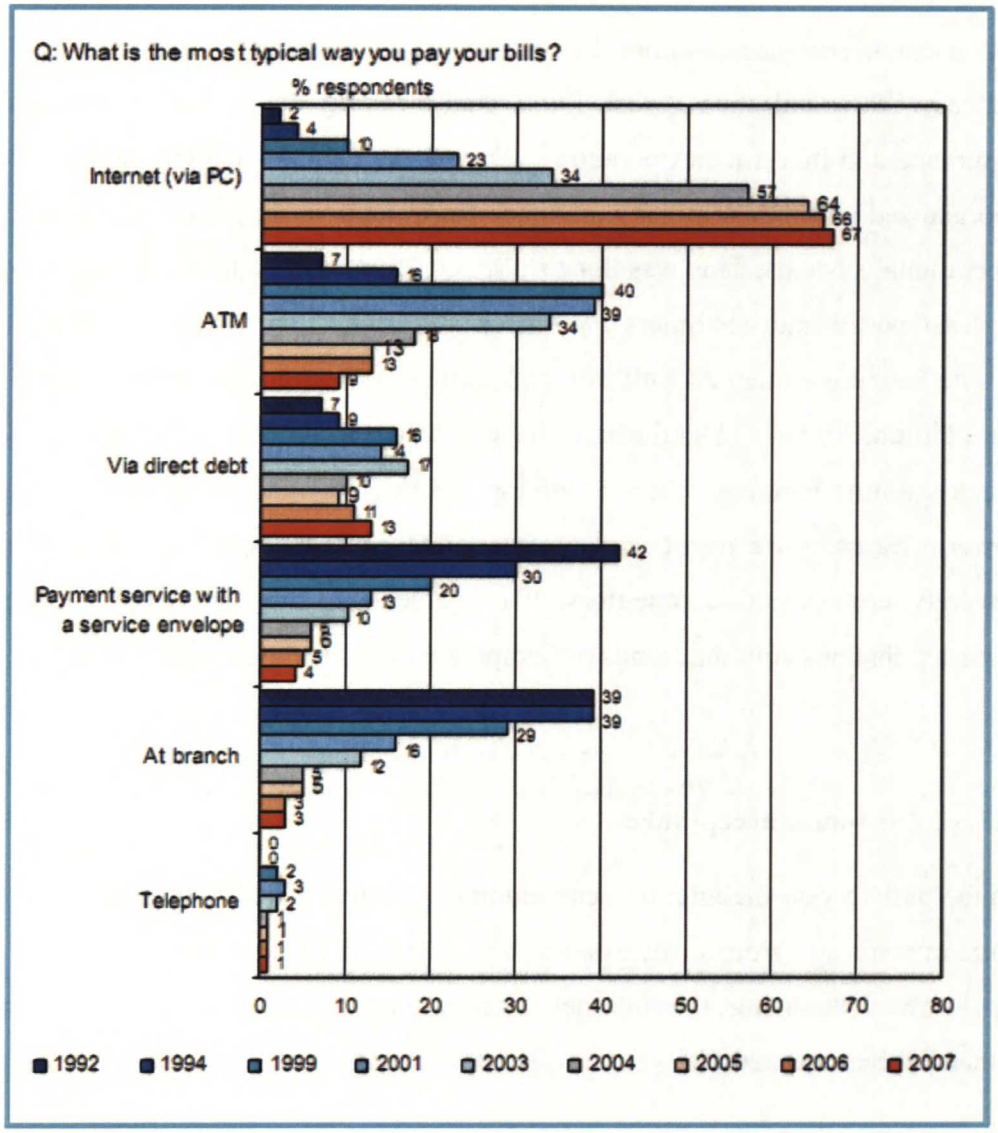
As a counterbalance, Sampo Group divested its banking arm to Danske Bank in January 2007 and thus divested its retail banking operations, concentrating on insurance and investment operations. During the next 14 months Sampo Bank was reorganized and preparations were made for a massive migration to Danske Bank's operational systems. This was done in March 2008, but the massive migration failed at least partly and customers have been suffering from outages in Sampo's new online banking system as well as credit card authorizations have occasionally failed. In addition, Finnish IT-enthusiasts have detected several security holes in Danske Bank's online banking solution, forcing the bank to make hasty repairs and issue press releases. As a result, consumer confidence in Sampo Bank's reliability has severely eroded and competitors, like Nordea and the OP-Pohjola group have reported that possibly thousands of Sampo's customers have switched banks.

6.1.4 Customer acceptance

In the past 15 year the internet penetration has risen to 82% of all Finns, being almost total in some age groups (for example, 99% with 15-18 year olds). Even ages 65 and up show 40% using the internet at least occasionally. (Federation of Finnish Financial Services, 2007)

Correspondingly, these rates are also reflected in the customer behavior. In all, only 3% of all bills are paid at the counter and self-service channels account for 89% of all payments, the remaining 8% being either telephone or service envelope based payments, which still require manual effort at the bank's side. (Ibid.)

Chart 1: Bill paying methods in Finland 1992-2007 (Federation of Finnish Financial Services, 2007)



As stated earlier, there are 4.3 million online banking contracts in Finland. Customer acceptance towards electronic channels would therefore seem almost complete.

However, the initial success of the S-Bank is an indicator that there is a customer need for personal service. The S-Group started the S-Bank in October 2007 and branded it as a bank that offers day-to-day banking inexpensively and with a broad service network. The bank does not even offer mortgages or investment products, making it analogous to an low-cost airline. In addition to having a broad branch network, their offices (i.e. department stores and supermarkets) have longer opening hours than traditional banks, which have banking hours somewhere between 09:00

and 16:30 on weekdays. S-Bank offices are open 07:00-21:00 on weekdays, 09:00-18:00 on Saturdays and some also 12:00-21:00 on Sundays.

The bank's success was a surprise. By April 2008 the bank had attracted approximately 100,000 new customers and over 500 million euros in deposits. In all, over 400,000 customers have made online banking contracts. (S-Bank, 2008)

But the above description of the IT-woes of Sampo Bank is also illustrative. Obviously Finnish customers take their online banking seriously enough to take the time and effort to switch banks if and when the system suffers from prolonged difficulties. Online channels are not merely accepted, they are required as a matter of fact.

6.1.5 Summary

Given the regulatory, competitive and technological changes in the retail banking industry in the last years, it is not difficult to identify changes and drivers pushing banks towards electronic and self-service channels. Information technology and electronic channels have only become commonplace, but a critical element of the service mix. But against commonsense assumptions, this trend does not seem to reflect to the existing bricks-and-mortar branch network, which has remained stable during the last ten years, despite routine transactions moving online.

The following table summarizes the findings in the previous chapters.

Factor	**Evidence**
Industry and competitive factors	Deregulation has led to enormous wave of mergers and acquisitions, both domestic and cross-border as exemplified the cases of Nordea and Sampo-Danske bank
	Retail banking systems are available off-the-shelf, leading to lower barriers of entry – case Tapiola and S-Bank.

	IT has also become a critical business enabler and rising customer expectations are making it expensive to implement
	Increasing European harmonization in the form of SEPA is both lowering barriers of entry and pushing IT costs upwards, at least in the short term.
	Ålandsbanken demonstrates that It is not considered a sustainable competitive advantage. Their subsidiary Crosskey sells their banking system to competitors.
Business models and strategies	Minimal differentiation in the banks service pricing and interest rates. All banks charge punitive fees for over-the-counter transactions.
	Despite huge growth in electronic transactions, the branch office network in Finland has not decreased in the last ten years. Also the number of employees is holding steady. Profits have improved.
Inter-organizational imperatives	Strong trend towards amalgamation of banking and other financial services, like insurances. Tapiola an example of an insurer turned bank and OP-Pohjola an example of a bank turned insurer.
	Sampo Bank an example of the reverse process, where cross-border merger replaced horizontal integration.

Customer acceptance	In Finland there are 4.3 million online banking contracts, with 89% of all bills paid thru self service channels, suggesting near universal customer acceptance and adoption.
	The initial success of S-Bank suggests that there is a customer need for more personal banking
	Sampo/Danske Bank problems during and after their IT-migration indicates that customer are willing to switch banks if online service are unavailable or unreliable

6.2 Airline industry

The following chapters will examine the airline industry's drivers within the Elliot framework. The focus is in the Finnish airline industry, but due to its small size and relative lack of competition, evidence is also referenced from European and global perspectives.

The Finnish airline industry is dominated by the flag carrier Finnair, which is still owned 56% by the state of Finland. Its biggest competition is the SAS Group, with their subsidiary Blue1 acting as a regional airline, flying biggest domestic routes, some international routes direct and a substantial route network through connections at SAS hubs in Stockholm-Arlanda and Copenhagen.

Several low-cost airlines have experimented with the Helsinki route, but have quickly withdrawn due to lack of interest. This has happened to Sterling, FlyMe, Volare, GermanWings and Clikair, to name a few.

Other Finnish airlines are Air Finland and FinnComm, followed by the niche airlines Air Åland, AirLappeenranta and Turku Air. Copterline flies helicopter flights in Finland and between Helsinki and Tallinn, Estonia.

In all, in 2007 there were approximately 17 million airline passengers in Finland, with 11.5 million of them being international and 5.5 domestic. (Finavia, 2008)

6.2.1 Industry and competitive factors

Overcapacity and especially the tremendous increase in the price of jet fuel are driving airlines to seek efficiency gains by whatever means possible. IATA has identified that electronic ticketing would save the industry US$3.0 billion per annum and the organization is leading an e-ticketing initiative. Most airlines, including Finnair, will cease to issue paper tickets after May 31, 2008. (IATA, 2008a)

Another important IATA initiative is the Common Use Self-Service or CUSS. This programs aims to create a standard for check-in kiosks, which will then be able to serve multiple airlines per terminal, instead of having a separate terminal per airline. The initiative also aims to standardize remote check-in. In 2008, IATA will ensure that 130 airports offer CUSS facilities. IATA estimates that self-service check-in generates average per check-in saving of US$2.50 which would mean that 40% market penetration of self-service check-in will save $US1 billion per year. (IATA, 2008b)

Let us then examine the assumption that **commoditization of air travel increases price sensitivity**, referring to the lower search costs and greater availability brought by online services. Would-be travelers can compare and directly shop their desired flight without agency intermediation.

Let us examine indications of impact of price sensitivity on a particular route. Finnair and Air Finland both fly a direct route between Helsinki, Finland and Malaga, Spain during the summer holiday season and both companies make their pricing publicly available on their websites. The Table 4 lists Finnair's pricing schedule for a single passenger for flights originating at Helsinki airport between June 14 and June 20, 2008 and return flights from Malaga between June 21 and June 27, 2008. Air Finland has fewer flights, on days shown with a darker background.

Table 4: Finnair price sensitivity on Helsinki-Malaga route

		RETURN FLIGHT						
		Jun 21	**Jun 22**	**Jun 23**	**Jun 24**	**Jun 25**	**Jun 26**	**Jun 27**
DEPARTURE	**Jun 14**	352.00 €	352.00 €	678.00 €	352.00 €	716.00 €	352.00 €	488.00 €
	Jun 15	363.00 €	**363.00 €**	713.00 €	**363.00 €**	751.00 €	**363.00 €**	488.00 €
	Jun 16	1 446.00 €	573.00 €	518.00 €	716.00 €	716.00 €	716.00 €	1 446.00 €
	Jun 17	352.00 €	**352.00 €**	518.00 €	**352.00 €**	716.00 €	**352.00 €**	488.00 €
	Jun 18	1 446.00 €	611.00 €	556.00 €	594.00 €	649.00 €	716.00 €	1 446.00 €
	Jun 19	488.00 €	**488.00 €**	518.00 €	**488.00 €**	611.00 €	**488.00 €**	550.00 €
	Jun 20	488.00 €	488.00 €	568.00 €	488.00 €	661.00 €	488.00 €	550.00 €

Average price on days with Air Finland flights	401.00 €	**-37.65 %**
Average price on days without Air Finland flights	643.15 €	discount
Average weekday price on days with Air Finland flights	420.00 €	**-38.01 %**
Average weekday price on days without Air Finland flights	677.57 €	discount
Average price on all days	598.67 €	

On average, the price of return ticket is 598.67€. On days with Finnair exclusivity (= no other direct flights on the route), the average price is 643.15€. But on days with competing Air Finland flights, the average price drops to 401.00€ , a discount of 37.65%! The discount is almost the same (38.01%) when examining just the weekday flights. Air Finland charges on average 391.33€ on the same days, making the two companies' pricing practically equal on the same days.

Table 5: Air Finland pricing on the Helsinki-Malaga route

	Jun 22	**Jun 24**	**Jun 26**
Jun 15	398.00 €	388.00 €	398.00 €
Jun 17	388.00 €	378.00 €	388.00 €
Jun 19	398.00 €	388.00 €	398.00 €

6.2.2 Business models and strategies

The assumption is that there is **a trend towards disintermediation and direct sales**. Let us examine the organizational structure and distribution channels of Finnair.

Finnair uses its own online store to sell its own flights. The airline also participates in all GDSs and its flights are available to GDS-connected travel agents.

However, Finnair is itself active in the travel agent and tour operator businesses. Its Leisure Traffic business segment includes tour operators Aurinkomatkat-Suntours, which is the biggest tour operator in Finland as well as Matkayhtymä Ab and Oü Horizon Travel, the second biggest tour operator in Estonia. In the Travel Services business segment Finnair has travel agency subsidiaries Area, Finland Travel Bureau and Estravel in Estonia. Finnair also owns Amadeus Finland Oy, a reservation systems supplier. Finnair recently added hotels to its online booking service, an addition enabled by its subsidiary Area.

In addition to these, Finnair is one of the nine founding airlines of the Opodo Group, which operates several travel portals, selling airline tickets, hotel reservations, car rentals and activities as well as packages of them all. The Opodo Group is currently majority owned by the travel technology company Amadeus, and has six portals in central Europe under the Opodo brand and four Scandinavian sites under the Travellink brand, in Finland the portal is at www.travellink.fi. The Opodo offering is not limited to flights from the founding airlines, they offer all GDS-available flights.

Like most airlines, Finnair in September 2003 also eliminated agency commissions for selling its tickets. Travel agents are still welcome to sell Finnair's tickets but they must generate their revenue elsewhere. Travel agents are forced to continue selling these tickets if they wish to keep their clients – since the flights are readily available through several other channels, many of them owned by Finnair itself, like described above.

6.2.3 Inter-organizational imperatives

In previous chapter the Opodo Group was described as an element in Finnair's distribution channel mix. But it has implications also from the viewpoint of inter-organization imperatives and how interfirm relationships can exist parallel to other, seemingly conflicting interests and alliances.

Let us examine the founding member airlines behind Opodo as well as their alliance affiliations. The airlines are Aer Lingus, Air France, Alitalia, Austrian Airlines, British Airways, Finnair, Iberia, KLM and Lufthansa.

Table 6: Alliance affiliation of Opodo founders

Alliance	Airlines
Oneworld	British Airways, Finnair, Iberia
SkyTeam	Air France, KLM, Alitalia
Star Alliance	Austrian Airlines, Lufthansa
Independent	Aer Lingus (Oneworld until Apr, 2007)

It should also be noted that the largest shareholder of Aer Lingus is Ryanair, owning approximately 29% of Aer Lingus stock.

It is extremely noteworthy that the partner airlines of Opodo are not interalliance partners, but belong to three different, competing alliances – SkyTeam, Star Alliance and OneWorld, with the independent and Ryanair-affiliated Aer Lingus in the mix. Orbitz in the United States is another similar entity, with American Airlines, Continental, Delta, Northwest Airlines and United as its owners, being also members of competing alliances.

Obviously the participating airlines view interchannel competition as more dangerous than interfirm or interalliance competition. Information about the customer is the ultimate commodity and source of market power.

There are also less formal associations and relations between industry participants. Finnair divested its low-cost subsidiary Aero in January 2007 and with it its turboprop operations (becoming a jet-only airline). Aero had been previously operating short, cityhopper flights in southern Finland, with Finnair operating more profitable northern routes (like Helsinki-Oulu) with its larger jet aircraft. Aero was dissolved as Finnair was able to achieve the main objective of feeding its longer routes by partnering with FinnComm Airlines, a small airline that had been operating turboprop aircraft on domestic routes.

FinnComm and Finnair signed a code-sharing agreement in July 2007 and FinnComm tailors its schedule to Finnair's schedule, so that FinnComm passengers can have natural connections to Finnair's long-haul flights.

While FinnComm is technically an independent airline, its flights are available from the Finnair website and Finnair customers are awarded frequent flyer points for FinnComm flights. Thus the relationship can be described as symbiotic, rather than competitive. It is highly unlikely that FinnComm would do anything to endanger its high-volume partnership with Finnair.

How then do travel agents and other intermediaries resist this disintermediation process and the erosion of their revenue base?

The relative narrowness and small size of the Finnish air travel industry makes it difficult for existing intermediaries to fight back. Especially in the area of domestic travel there are limited alternatives – often Blue1 being the only one to the Finnair/FinnComm partnership. And this position gives also Blue1 too much market power to make it a viable long term alternative.

In the leisure travel segment, tour operators have been able to mount some resistance. Finnmatkat is second largest tour operator in Finland (after Finnair's Sun Tours) and part of the TUI Nordic group, which in turn is a subsidiary of TUI Travel Plc, worlds largest travel operator and a business of the TUI AG, which also owns words largest charter airline TUI Airlines.

Finnmatkat flies its leisure flights using several airlines, Finnair being the most common but with almost equal share of flights operated by TUIFly Nordic, which is the Nordic branch of TUI Airlines. This *insourcing* strategy represented by the existence of TUIFly Nordic (and the entire TUI Airlines) is the ultimate form of intermediary resistance. It is not a viable strategy for bypassing regular scheduled flights, but for tour operations with fixed, easily manageable routes and schedules it is possible, but due to the enormous capital requirements is only available to multinational operators, like the huge TUI Travel Plc.

But this effort to reduce Finnair's market power also enables an airline like Air Finland to operate. Air Finland is privately owed Finnish airline that begun flight operations in 2003 and currently has three Boeing 757-200 aircraft. They serve exclusively the leisure travel segment by offering regular scheduled flights to select destinations (currently to Alicante and Malaga in Spain). However, the main business of Air Finland is not in these regular routes, but in their charter flight operations, in which they fly to destinations in for example Thailand, Tunisia and Egypt under

contract from various tour operators in Finland and Sweden, like Finnmatkat, Matkapojat, Domina Travel and Fritidsresor to name a few. Air Finland does not participate in GDS:s and sells its tickets via its own website or through affiliated travel agencies.

Intermediaries can also use fight disintermediation efforts through legal and regulatory methods. In the United States, the American Society of Travel Agents (ASTA) filed a complaint in 2001 with the Department of Justice to prevent Orbitz from launching its site. Because Orbitz was established by several competing airlines, ASTA feared that these airlines would offer preferential pricing through specially discounted fares at Orbitz, like they commonly do at their own websites. ASTA argued that these discounted fares should also be available to all travel agencies. (Atkinson, 2001)

Ultimately in 2003 the Department of Justice found that the Orbitz scheme is not anticompetitive and that the collaboration of airlines did not result in higher fares or make Orbitz dominant in online air travel distribution. (US Department of Justice, 2003)

6.2.4 Customer acceptance

The assumption is that risk-averse cultures prefer professional services to self-service. This has been noted in Asia with a strong preference towards existing physical distribution channels.

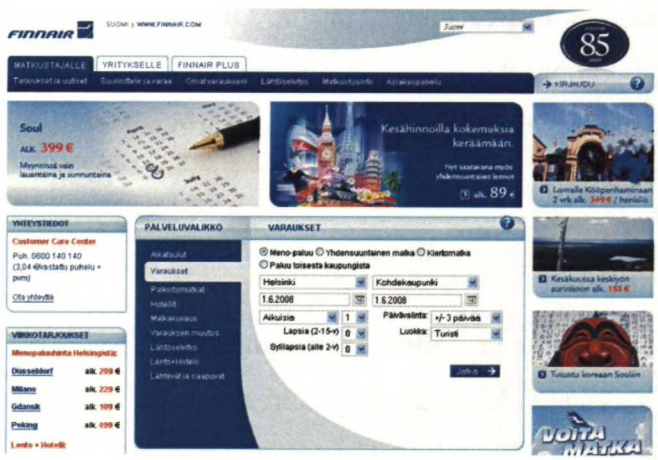
In general Finland and the Nordic countries are not risk-averse cultures. New technology is widely embraced and due to relatively high wage levels and average education, Finland has very little low level service jobs resulting in high levels of self-service. Thus self-service through electronic channels is widely accepted.

It is noteworthy that Finnair currently has check-in kiosks at Helsinki-Vantaa, Stockholm-Arlanda, Copenhagen, Amsterdam, Zürich, Vienna, Frankfurt, Brussels and Manchester airports. While there are several reasons (like security and cost of kiosks and their space), it is also noteworthy that all of the airports mentioned reside in relatively risk-tolerant nations.

Finnair has also introduced SMS-based mobile check-in in 2004. This service is available for members of Finnair's Plus – their frequent flyer program – for flights

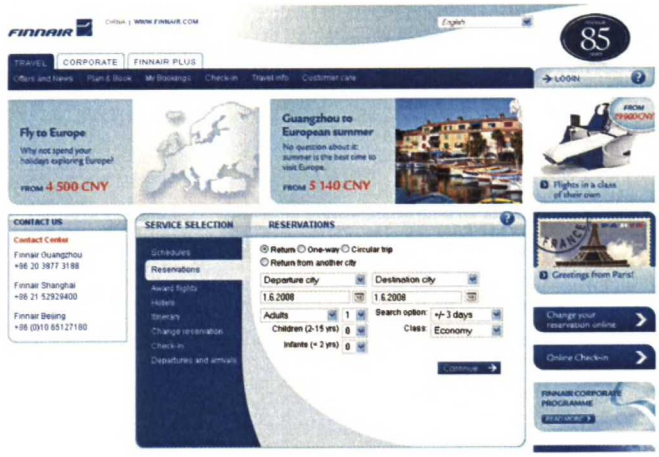
originating at Helsinki-Vantaa, Gothenburg and Stockholm-Arlanda airports. While still rare at the time, large number of airlines has begun offer similar services during the recent years – for example Air France / KLM, Air Canada, Qantas. IATA has also included mobile check-in into its CUSS initiative.

But the Asian preference towards professional service is also relevant in the Finnish airline industry. Finnair has been actively pursuing a growth strategy as the gateway between east and west, with frequent flights to several cities in China, Japan, Thailand and India. However, this distinction is not in evidence on the Finnair website as localized versions in China, India and Japan are essentially identical to the Finnish language version. The Japanese site is the only one that has been localized to the Japanese language and alphabet, the other country versions are in English.



Finnair portal page in Finland, in Finnish

Finnair portal page in India, in English



Finnair portal page in China, in English

Finnair portal page in Japan, in Japanese and with a Japanese character encoding

6.2.5 Summary

The airline industry in Finland – even if somewhat monopolistic due to the exaggerated importance of Finnair – exhibits business phenomenon that can easily be identified as drivers in the Elliot model.

The following table summarizes the findings in the previous chapters.

Factor	**Evidence**
Industry and competitive factors	Fuel prices force airlines to seek efficiency gains on the ground, e-ticketing and self-service check-in in important role. Ticket commissions eliminated even earlier.

	IATA initiatives drive industry development globally, Finnair implements full e-ticketing on May 31, 2008.
	Commoditization drives price sensitivity – direct comparison shows evidence of dynamic pricing due to competition
Business models and strategies	Finnair vertically integrated – owns tour operators, travel agents and an CRS supplier Amadeus Finland. Finnair also partners with other airlines to run Opodo, an online travel agent
	Travel agent commissions eliminated in 2003, leaving travel agents forced to continue selling tickets without revenue.
Inter-organizational imperatives	Case Opodo and Orbitz: Cooperation on e-commerce ventures across alliance borders.
	FinnComm in a symbiotic relationship with Finnair – partnering at a level deeper than alliance.
	Tour operators fight disintermediation through insourcing (case Finnmatkat and the TUI Travel group) and seeking niche airlines as partners
	Air Finland exists in this niche – offering charter flight capacity to tour operators and travel agents.
	Intermediaries can use regulatory and legal restraints against disintermediation attempts – case Orbitz vs. ASTA and US DOJ.

Customer acceptance	Finnish market not inherently risk-averse, self-service being accepted norm throughout the society.
	Finnair offers check-in kiosks and mobile check-in in its domestic and northern Europe markets.
	Asian tradition of risk-aversion and preference towards professional service is not evident in Finnair's web presence in Japan, Thailand, China and India.

7 SUMMARY AND CONCLUSIONS

In the previous chapters the two industries were examined individually using the modified Elliot framework. But can we then finally identify similarities between the two industries, both in their drivers and the resulting efforts (if any) ?

Industry and competitive factors

In both industries, deregulation has enabled existing businesses to widen their operations but also new entrants to enter the business, leading to increased competitive pressures throughout.

In all, both industries are suffering from a degree of commoditization, whereby routine products and services have increased comparability via online channels and as a result, customers are willing and able to seek the lowest cost. Differentiation requires packaging and refining standard products into custom packages for added value and complexity, making comparisons more difficult.

There is also a substantial harmonization process underway in both industries. Retail banking is affected by the SEPA initiative, which will both increase competition and also short-term IT costs. In the airline business IATA is leading e-ticketing and self-service efforts, but the key difference is that this is a industry effort, leading to direct and substantial savings after initial it-costs have been recovered.

Business models and strategies

In both industries participants would very much like to differentiate their offering in order to fight price erosion. But this is very difficult to achieve, especially so in the retail banking sector.

A bank can differentiate by price or distribution, but not really with the underlying product. The level of sophistication in electronic channels has become a sales argument in itself, but the significance of branch office networks has far from disappeared. And even in risk tolerant culture like in Finland, the trust generated by physical presence of the branch offices cannot be overlooked.

This is clearly a major distinction with airlines, which have actively disintermediated their bricks-and-mortar distribution partners in favor of their own electronic

channels. This is also largely a cost issue – by establishing direct links to their customers, airlines have been able to eliminate agent commissions entirely.

Electronic commerce and customer service is a key element of strategy for both industries – even remarkably so. It has long since ceased to be merely value added and has transformed into a business requirement.

Inter-organizational imperatives

Increased commoditization of the basic product leads industry participants to gather and leverage their information. In both industries this means mergers and acquisitions and also horizontal and vertical partnerships. In retail banking the value chain is shorter, having few or no intermediaries to contend with, so vertical integration is less of an issue.

Financial information is also far more sensitive than personal travel preferences, and is also more protected by privacy regulations. This limits the retail banking industries ability to share information in horizontal relationships, leading to mergers between partners (like OP and Pohjola).

In the airline industry this is less common, favoring partner ecosystems. Finnair does present an integrated value chain by owning several downchannel participants. This must however be largely seen as a defensive setup against competition, and not as traditional core competency thinking.

Customer acceptance

In both industries customer acceptance for electronic channels is widespread and industry participants can safely pursue e-commerce initiatives. But this acceptance is not quite universal and customers still demand face-to-face contacts. This is especially true in retail banking, where bricks-and-mortar also creates an image of solidity, compared to being merely virtual.

In the airline business there is an element of risk tolerance involved, as travel inherently involves an element of the unknown (why else would we travel?) and risk. In most western cultures risk tolerance is at fairly high levels and the growing familiarity with online channels serves to reduce the perceived risk.

In conclusion

The two industries are remarkably similar in their responses to similar stimuli and both are on similar stages of adoption in regard to electronic channels. But it is likewise apparent they are diverging especially in regard to having bricks-and-mortar offices.

Their current stage of development is still at the lower end of the adoption curve and substantial changes are yet likely to happen as technology – as well as consumers and businesses adopting it – mature.

This research has by necessity been a general overview of the drivers of electronic channels within and between the two industries. Further research would need to do an in-depth review of how these factors are perceived from within the organizations operating in these industries and if there are differences in the industry participants views on how these technologies will impact them in the future – and whether that impact is desirable or something to resist.

8 REFERENCES

Atkinson, Rowan J. (2001). The Revenge of the Disintermediated - How the Middleman is Fighting E-Commerce and Hurting Consumers. *Policy paper by the Progressive Policy Institute.*

Bátiz-Lazo, B. & Wood, D. (1999). Information Technology and Retail Banking: A Review on the Adoption and Diffusion of Technological Change. *Papers and proceedings, Financial Information and Systems Annual Conference, Sheffield, July 1999.*

Berman, B. (1996). *Marketing Channels*. New York: John Wiley & Sons Inc.

Black, N.J. & Lockett, A. & Ennew, C. & Winklhofer,H. & McKechnie, S. (2002). Modelling consumer choice of distribution channels: An illustration from financial services. *The International Journal of Bank Marketing.* 20(4), 161-173.

Bouvard, F. & Somosi, A. (1997). Europe's airlines choose between two ticket distribution strategies. *McKinsey Quarterly.* (1997:1), 173-177.

Boyd, E.A. & Bilegan, I.C. (2003). Revenue Management and E-Commerce. *Management Science*. (49:10), 1363-1386.

Bughin, J. (2002). The diffusion of Internet banking in Western Europe. *Digital Economy Lab, McKinsey & Company.*

Cash Technologies Inc. (1999). A press release at http://www.cashtechnologies.com/prRevoATM.htm, referenced Dec 7,2002

Christiaanse, E. & Venkatraman, N. (2002). Beyond Sabre: An Empirical Test of Expertise Exploitation in Electronic Channels. *MIS Quarterly.* 26(1), 15-38

Crane, D.B. & Bodie, Z. (1996). The Transformation of Banking. *Harvard Business Review*. Mar/Apr 1996, 109-117.

Deloitte Research (2002). Competing for Your Customers: The Future of Retail Financial Services. *A Global Financial Services study by Deloitte Consulting and Deloitte Touche Tohmatsu.*

Devlin, J.F. (1995). Technology and innovation in retail banking distribution. International Journal of Bank Marketing. 13 (4), 19-25.

Driver, J. (1999). Developments in Airline Marketing Practice. *Journal of Marketing Practice: Applied Marketing Science*. (5:5), 134-150.

Eastin, M.S. (2002). Diffusion of e-commerce: an analysis of the adoption of four e-commerce activities. *Telematics and Informatics*. 19(3), 251-267.

Elliot, S. (2002). An adoption framework for mobile commerce. In Elliot, S. (ed.). *Electronic Commerce: B2C Strategies and Models*. New York: Wiley & Sons.

Federation of Finnish Financial Services (2007*). Saving and borrowing in Finland.* Publication by Federation of Finnish Financial Services in spring 2007.

Federation of Finnish Financial Services (2008a*).* Statistical data on the banks' payment systems in Finland 1998 - 2007. *Publication by Federation of Finnish Financial Services in May 15,2008.*

Federation of Finnish Financial Services (2008b*).* Pankit Suomessa 2007. *Publication by Federation of Finnish Financial Services in May 15,2008.* In Finnish.

Finavia (2007). Passengers 2007. *A traffic bulletin by the Finavia at http://www.finavia.fi/files/finavia/matkustajat_eng_pdf/0_INET_matk_.2007_joulu.EN.pdf*, referenced May 29,2008.

Garrone, P. & Colombo, M.G. (1999). Market-driven design of innovative services; The case of multimedia home banking. *Technovation.*19(9), 537-549.

Garrow L.A. & Jones, S.P. & Parker, R.A. (2006). How much airline customers are willing to pay: An analysis of price sensitivity in online distribution channels. *Journal of Revenue and Pricing Management.* 5(4), 271-290.

Helsingin Sanomat (Feb 29, 2004). *Euroopan komissio pitää Ryanairin saamia etuja laittomina.* Newspaper article in Finnish.

Holmsen, Cato A. et al. (1998). Retail Banking: Managing Competition Among Your Own Channels. *McKinsey Quarterly. (1998:*1), 82-93.

IATA (2008a). E-ticketing. *An explanatory web page on the IATA website at http://www.iata.org/stbsupportportal/et/.* Referenced on May 25, 2008.

IATA (2008b). Common Use Self-Service (CUSS). *An explanatory web page on the IATA website at http://www.iata.org/stbsupportportal/cuss/.* Referenced on May 25, 2008.

Karjaluoto, H. & Mattila, M. & Pento, T. (2002). Electronic banking in Finland: Consumer beliefs and reactions to a new delivery channel. *Journal of Financial Services Marketing.* 6(4), 346-361.

Liao, S. & Shao, Y.P. & Wang, H. & Chen, A. (1999). The adoption of virtual banking: an empirical study. *International Journal of Information Management.* 19(1), 63-74.

Mols, N.P. (2001). Organizing for the effective introduction of new distribution channels in retail banking. *European Journal of Marketing.* 35(5), 661-686.

Mols, N.P. (1999). The Internet and the banks' strategic distribution channel decisions. *International Journal of Bank Marketing.* 17(6), 295-300.

Moore, G.C. & Benbasat, I. (1991). Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation. *Information Systems Research.* 2(3), 192-222.

Morrison, P.D. & Roberts, J.H. (1998). Matching Electronic Distribution Channels to Product Characteristics: The Role of Congruence in Consideration Set Formation. *Journal of Business Research.* 41, 223-229.

Mörttinen, L. (2002). Banking sector output and labour productivity in six European countries. *Bank of Finland Discussion Papers (12/2002).*

Nordea Bank (2002). *Nordea ylitti 3 miljoonan verkkopankkiasiakkaan rajan.* Nordea Bank press release 16.5.2002. In Finnish.

Nyberg, A. (1998). *Innovation in distribution channels: an evolutionary approach.* Stockholm: Stockholm School of Economics / The Economic Research Institute.

Pedersen, P.E. (forthcoming). Adoption of mobile Internet services: An exploratory study of mobile commerce early adopters. *To appear in Journal of Organizational Computing and Electronic Commerce.*

Pedersen, P.E. (2001). An adoption framework for mobile commerce. In Schmid, B. & Stanoevska-Slabeva, K & Tschammer, V. (eds.). *Towards the E-Society.* Massachusetts: Kluwer Academic Publishers.

Piga, C.A. & Filippi, N. (2002). Booking and Flying with Low-cost Airlines. *International Journal of Tourism Research.* 4, 237-149.

Pötzl, J. (2000). Issues in Direct Channel Distribution: A Comparison of Selling via the Internet in the Airline Business and the Fast-moving Consumer Goods Industry. *Electronic Markets.* 10(3), 153-157.

Reardon, J. & McCorkle, D.E. (2002). A consumer model for channel switching behavior. *Internation Journal of Retail & Distribution Management.* 30(4), 179-185.

Redmond, W.H. (2002). Interconnectivity in diffusion of innovations and market competition. *To appear in Journal of Business Research.*

Rogers, E.M. (1983). *Diffusion of innovations (3rd ed.).* New York: Free Press.

Rosenbloom, B. (2004). *Marketing Channels: A Management View (7th ed.).* Louiseville: South-Western

S-Bank (2008). *S-Pankilla yli 400 000 verkkopankkiasiakasta.* Press release in Finnish at http://www.s-pankki.fi/tiedotteet/fi_FI/tiedote_25052008/, referenced May 27, 2008.

Schoenbachler, D. & Gordon, G. (2002). Multi-channel shopping: Understanding what drives channel choice. *The Journal of Consumer Marketing.* 19(1), 42.

Shon, Z-Y, Chen F-Y & Chang, Y-H. (2003). Airline e-commerce: the revolution in ticketing channels. *Journal of Air Transport management.* (2003:9), 325-331.

US Department Of Justice (2003). Statement by Assistant Attorney General R. Hewitt Pate Regarding the Closing of the Orbitz Investigation. *A press release by the United States Department of Justice at http://www.usdoj.gov/atr/public/press_releases/2003/201208.htm.* Referenced on May 28, 2008.

Vesala, J. (2000). Technological Transformation and Retail Banking Competition: Implications and Measurement. *Bank of Finland Studies, E:20.*

Yakhlef, A. (2001). Does the Internet compete with or complement bricks-and-mortar bank branches? *International Journal of Retail & Distribution Management.* 29(6), 272-281.

Yiu, C.S. & Grant, K. & Edgar D. (2007). Factors affecting the adoption of Internet Banking in Hong Kong—implications for the banking sector. *International Journal of Information Management.* 27, 336-351.

APPENDIX A: RETAIL BANKS OPERATING IN FINLAND

	Banks	Balance (MEUR)	2007	2006	2007	2006
Domestic banks						
OP-Pohjola group	232	65 716	12471	12139	630	670
Nordea Bank Finland Plc	1	147 254	10207	9846	347	369
Sampo Bank	1	26 265	3128	4602	128	164
Savings banks	38	6 109	1178	1102	211	202
Aktia	1	7 951	1156	919	82	76
Local cooperative banks	42	3 703	724	719	145	145
Ålandsbanken	1	2 592	524	476	26	26
Glitnir	1	476	336		11	
Evli Bank	1	964	288	273	3	3
eQ Bank	1	664	189	139	2	1
Tapiola Bank	1	924	137	89	38	38
S-Bank	1		121	26	1	1
Suomen AsuntoHypoPankki	1	587	30	30	1	1
SEB Gyllenberg Private Bank	1		1	44	1	1
Domestic banks total	**323**		**30490**	**30404**	**1626**	**1697**
Foreign banks in Finland						
Svenska Handelsbanken	1	196 937	689	636	45	37
Skandinaviska Enskilda Banken	1	248 315	279	163	1	1
Danske Bank	1	449 101	150	69	1	1
Carnegie	1		73	74	2	1
Citibank International	1		66	61	2	2
Deutche Bank	1		15	15	1	1
Kaupthing Bank	1		111	101	1	1
Calyon	1		14	13	1	1
Bank DnB NORD	1		10	7	1	1
Swedbank	1	170 310	9	7	1	1
DnB NOR Bank	1	185 212	4	4	1	1
ABN AMRO	1				1	
EFG Investment Bank	1				1	
The Royal Bank of Scotland	1				1	
FOREX Bank	1				1	1
Foreign banks total	**15**		**1420**	**1150**	**61**	**49**
ALL IN TOTAL	**338**		**31910**	**31554**	**1687**	**1746**